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REVIEWS OF NEW BOOKS.

THE ALLEGHANIES AND THE CHEROKEES.

Letters from the Alleghany Mountains. By Charles Lanman. New York: Putnam. London: Delf.

THE author of *A Tour to the River Saguenay, A Summer in the Wilderness*, and *Essays for Summer Hours*, is largely and justly popular in America, as one of the most pleasant sketchers who have followed in the footsteps of *The Sketch Book*. Nor is he unknown or unappreciated in this country, in which it has been our very agreeable task to pay tribute to his merits, and say how much the perusal of his writings had communicated to us agreeable associations with the scenery and people of the United States, and made us feel that all-the-world *akinnishness* which is the delight of nature and literature. The periodical press of America has cause to be vain of such contributors as Mr. Lanman, who, like his compatriot Willis, can step out of the trammels of the daily or weekly drudgery, and refresh themselves with a recreative excursion, and their readers with such recreative descriptions of it as these. They are like showers on a dusty road. They not only lay the troublesome particles, but throw a freshness over the whole tract, and enable us to breathe the balmy airs and flower scents of the adjoining fields, while we are trudging along the usual path, rejoicing that, even there, the shower has done so much for our comfort. For we should like a psychological inquiry into an opinion we have sometimes entertained—namely, that the proximity of beauty to ugliness renders the ugly less ugly, and does not, as is generally supposed, make the ugly more ugly by the force of contrast. In internal man there can be no question on the subject. Evil cannot co-exist to any injurious extent in the immediate neighbourhood with Good; but even among physical forms (for example), a stunted bush looks better on the bank of a sweet rivulet than in a nettley waste, and the mind reconciles itself to any monstrosity if, close beside it, there is a thing of loveliness.

The Alleghany mountains are now to America as the Cumberland range is to England, crossed by many transits, and well populated on all sides. Yet it is interesting to find how much entertaining novelty Mr. Lanman has extracted from his last year's tour among their varieties; and especially re-regarding them as the last hold of the Cherokees, how deep a sympathy in their past traditions and present condition he has awakened. As a sample of his general manner and style, we give a quotation from the second letter:—

"During my stay at Dahlonega I heard a good deal said about a native wonder, called 'Track Rock,' which was reported to be some thirty miles off, on the north-western side of the Blue Ridge Mountains. On revolving the information in my mind, I concluded that this rock was identical with one which had been mentioned to me by Professor James Jackson, of the University of Georgia, and I also remembered that the Professor had shown me a specimen of the rock he alluded to, which contained the imprint or impression of a human foot. My curiosity was of course excited, and I resolved to visit the natural or artificial wonder. I made the pilgrimage on foot, and what I saw and heard of peculiar interest on the occasion the reader will find recorded in the present letter.

"In accomplishing the trip to 'Track Rock' and back again to this place I was two days. On the first day I walked only twenty miles, having tarried occasionally to take a pencil sketch or hear the birds, as they actually filled the air with melody. My course lay over a very uneven country, which was entirely uncultivated, excepting some half dozen quiet vales, which presented a cheerful appearance. The woods were generally composed of oak and chestnut, and destitute to a considerable extent of undergrowth; the soil was composed of clay and sand, and apparently fertile; and clear sparkling brooks intersected the country, and were the first that I had seen in Georgia. I had a number of extensive mountain views, which were more beautiful than imposing; and among the birds that attracted my attention were the red-bird, mocking-bird, quail, lark, poke, woodpecker, jay, king-bird, crow, blue-bird, and dove, together with a large black-bird, having a red head, (apparently of the woodpecker genus,) and another smaller bird, whose back was of a rich black, breast a bright brown, with an occasional white feather in its wing, which I fancied to be a species of robin. Since these were my companions, it may be readily imagined that 'pleasantly the *hours* of Thalaba went by.'

"I spent the night at a place called 'Tesantee Gap,' in the cabin of a poor farmer, where I was most hospitably entertained. My host had a family of nine sons and three daughters, not one of whom had ever been out of the wilderness region of Georgia. Though the father was a very intelligent man by nature, he told me that he had received no education, and could hardly read a chapter in the Bible. He informed me, too, that his children were but little better informed, and seemed deeply to regret his inability to give them the schooling which he felt they needed. 'I have always desired,' said he, 'that I could live on *some public road*, so that my girls might occasionally *see* a civilized man, since it is fated that they will never meet with them in society.' I felt sorry for the worthy man, and endeavoured to direct his attention from himself to the surrounding country. He told me the mountains were susceptible of cultivation even to their summits, and that the principal productions of his farm were corn, wheat, rye, and potatoes; also, that the country abounded in game, such as deer, turkeys, and bears, and an occasional panther. Some of the mountains, he said, were covered with hickory, and a peculiar kind of oak, and that on said mountains grey squirrels were very abundant. The streams, he informed me, were well supplied with *large minnows*, by which I afterwards ascertained he meant the brook trout.

"While conversing with my old friend, an hour or so before sunset, we were startled by the baying of his hounds, and on looking up the narrow road running by his home, we saw a fine-looking doe coming towards us on the run. In its terror the poor creature made a sudden turn, and scaling a garden fence was overtaken by the dogs on a spot near which the wife of my host was planting seeds, when she immediately seized a bean-pole, and by a single blow deprived the doe of life. In a very few moments her husband was on the ground, and, having put his knife to the throat of the animal, the twain re-entered their dwelling, as if nothing had happened out of the common order of events. This was the first deer that I ever knew to be killed by a woman. When I took occasion to compliment the dogs of my old friend, he said that one of them was a 'powerful runner; for he had known him to follow a deer for three days and three nights.' Having in view my future rambles among the mountains, I questioned my companion about the snakes of this region, and, after remarking that they were 'very plenty,' he continued as follows: 'But of all the snake stories you ever heard tell of, I do not believe you ever heard of a *snake fight*. I saw one, Monday was a week, between a black-racer and a rattlesnake. It was in the road, about a mile from here, and when I saw them the racer had the other by the back of the head, and was coiling his body all around him, as if to squeeze him to death. The scuffle was pretty severe, but the racer soon killed the fellow with rattles, and I killed the racer. It was a queer scrape, and I reckon you do not often see the like in your country.'"

In this lively and intelligent way, traversing hither and thither, Mr. Lanman leads us many a welcome march; and as we dare say our readers will be content to know that every step is among the Alleghany hills, nobody will be angry with us for not particularizing the longitude and latitude, as if we were delivering ourselves to the Geological Section, British Association, at Birmingham. For Section D., we copy the following:—

"Within a few days past I have become acquainted with two insects which I have never seen described, but which are found in abundance throughout the South. I allude to the dirt-dauber and the stump-stinger. In their general appearance they both resemble the wasp. The first lives in a cell, which it builds on the inner side of a shed or piazza. It is a noted enemy of the spider, and possesses the art and the habit of killing that insect in great numbers. But what is really remarkable, they have a fashion of stowing away the carcasses of their slaughtered enemies in their dwellings, as if for future use; and after the cell is full, they close it with mud, and proceed to build another cell, so that the opulence of one of them may be calculated by the number of his closed dwellings. The stump-stinger is remarkable for having attached to the middle of his body a hard and pointed weapon, with which he can dig a hole one inch in depth in the body of even a hickory tree. This weapon he usually carries under his tail, but when about to be used makes him resemble a gimlet in form. The instrument is very hard, and composed of two pieces, which he works up and down, like a pair of chisels. It is supposed that he makes this hole for the purpose of depositing an egg, and it is alleged that the tree upon which he once fastens himself always falls to decay."

[Have they little boxes of Carbonic Acid in their trunks, we wonder?] But to graver circumstances:—

"*Qualla Town* is a name applied to a tract of seventy-two thousand acres of land, in Haywood county, which is occupied by about eight hundred Cherokee Indians and one hundred Catawbas. Their district is mountainous from one extremity to the other, and watered by a number of beautiful streams, which abound in fish; the valleys and slopes are quite fertile, and the lower mountains are well adapted to grazing, and at the same time are heavily timbered and supplied with every variety of game. This portion of a much larger multitude of aborigines, in consideration of their rank and age, and of valuable services rendered to the United States, were permitted by the General Government to remain upon their native soil, while the great body of the Cherokee nation were driven into exile. They (the exiles) amounted in all to more than sixteen thousand souls, *eighteen hundred and fifty* having died on their way to the '*promised land*' beyond the Mississippi. And here it may with propriety be added, that since the removal those in the West have gradually decreased in numbers, while the remaining portion have steadily increased by births at the rate of four per cent. per annum. In addition to the Indians above mentioned, it ought to be stated that there is a remnant of two hundred still remaining in the county of Cherokee: of those, however, I know but little, and therefore purpose to confine my remarks to those of Qualla Town alone.

"The Indians of this district, having formed themselves into a regular company, with appropriate regu-

lations, they elected an old friend of theirs, named William H. Thomas, (mentioned in my last letter,) to become their business chief, so that the connexion now existing between the two parties is that of father and children. What the result of this arrangement has been will be fully understood when I come to speak of the advance which the Indians have made in the march of civilization. As they are organized at the present time, the Qualla Town people are divided into seven clans, and to each clan is assigned what is called a town, over each of which presides a regular chief. The Cherokee nation was originally divided into seven clans, which were probably descended from certain noted families, and the old party feeling is still preserved with jealous care among their descendants in this vicinity. The names of the clans are: In-e-chees-quah, or Bird Clan; In-egil-lohee, or Pretty-faced Clan; In-e-wo-tah, or Paint Clan; In-e-wah-he-yah, or Wolf Clan; In-e-se-ho-nih, or Blue Clan; In-e-co-wih, or Deer Clan; and In-e-eo-te-ca-wih, the meaning of which is not known. And among the customs which prevail among these clans is one which prevents their marrying among themselves, so that they have to select their wives from a neighbouring fraternity. Formerly such marriages were prohibited by penalty of death.

"With regard to the extent of their civilization and their existing manner of life, the following may be looked upon as a comprehensive summary: About three-fourths of the entire population can read in their own language, and though the majority of them understand English, a very few can speak the language. They practise, to a considerable extent, the science of agriculture, and have acquired such a knowledge of the mechanic arts as answers them for all ordinary purposes, for they manufacture their own clothing, their own ploughs, and other farming utensils, their own axes, and even their own guns. Their women are no longer treated as slaves, but as equals; the men labour in the fields, and their wives are devoted entirely to household employments. They keep the same domestic animals that are kept by their white neighbours, and cultivate all the common grains of the country. They are probably as temperate as any other class of people on the face of the earth, honest in their business intercourse, moral in their thoughts, words, and deeds, and distinguished for their faithfulness in performing the duties of religion. They are chiefly Methodists and Baptists, and have regularly ordained ministers, who preach to them on every Sabbath, and they have also abandoned many of their mere senseless superstitions. They have their own courts and try their criminals by a regular jury. Their judges and lawyers are chosen from among themselves. They keep in order their public roads leading through their settlement. By a law of the State they have the right to vote, but seldom exercise that right, as they do not like the idea of being identified with any of the political parties. Excepting on festive days, they dress after the manner of the white man, but far more picturesquely. They live in small log houses of their own construction, and have every thing they need or desire in the way of food. They are, in fact, the happiest community that I have yet met with in this Southern country, and no candid man can visit them without being convinced of the wickedness and foolishness of that policy of the Goverment which has always acted upon the opinion that the red man could not be educated into a reasonable being."

Is it possible then that the Red Race may not be utterly exterminated, but survive for a while, and mingle into new races with White and Black? It is a sort of comfort to a White Critic and Reviewer to lay the flattering unction to his soul, that in every land to which his Caucasian brethren bend their "progressive" steps, the aboriginal man, be he red, or copper, or black, or long-haired, or woolly, or flat-nosed, or thick-lipped, or otherwise a Variorum of the human species, shall NOT, as a necessary course of Natural Science, be annihilated. Let us note with satisfaction that the establishment of a Temperance Society by a great chief among the Cherokees (herrabouts) was the first measure that gave them a chance of perpetuating their existence as an Indian tribe.* Among them we hear of one "now living in Qualla Town. His name is *Salola*, or the *Squirrel*. He is quite a young man, and has a remarkably thoughtful face. He is the blacksmith of his nation, and with some assistance supplies the whole of Qualla Town with all their axes and ploughs; but what is more, he has manufactured a number of very superior rifles and pistols, including stock, barrel, and lock; and he is also the builder of grist-mills, which grind all the corn which his people eat. A specimen of his workmanship, in the way of a rifle, may be seen at the Patent Office, in Washington, where it was deposited by Mr. Thomas; and I believe Salola is the first Indian who ever manufactured an entire gun. But, when it is remembered that he never received a particle of education in any of the mechanic arts, but is entirely self-taught, his attainments must be considered truly remarkable.

"That he labours under every disadvantage in his most worthy calling, may be shown by the fact that he uses a *flint-stone* for an anvil, and a *water-blast* for a bellows. In every particular he is a most worthy man, and though unable to speak the English tongue, is a very good scholar in his own language. He is the husband of a Catawba woman, whom he married *before he could speak one word of her own tongue, or she could speak Cherokee;* but they have now established a language of their own, by which they get along very well. Salola, upon the whole, is an honour to the country, and one whose services in some iron or steel establishment of the eastern cities would be of great value. Is there not some gentleman in Philadelphia or New-York who would take pleasure in patronizing this mechanical prodigy of the wilderness?"

From the present we will take a dip, for "*uniformity's sake*" into the past, or Cherokee legendary lore:—

"Once, in the olden times, when the animals of the earth had the power of speech, a red deer and a terrapin met on the Black Mountain. The deer ridiculed the terrapin, boasted of his own fleetness, and proposed that the twain should run a race. The creeping animal assented to the proposition. The race was to extend from the Black Mountain to the summit of the third pinnacle extending to the eastward. The day was then fixed, and the animals separated. During the intervening time the cunning terrapin secured the services of three of its fellows resembling itself in appearance, and having given them particular directions, stationed them upon the several peaks over which the race was to take place. The appointed day arrived, and the deer, as well as the first mentioned terrapin, were faithfully on the ground. All things being ready, the word was given, and away started the deer at a break-neck speed. Just as he reached the summit of the first hill he heard the shout of a terrapin, and as he supposed it to be his antagonist, he was greatly perplexed, but continued on his course. On reaching the top of the second hill, he heard another shout of defiance, and was more astonished than ever, but onward still did he continue. Just before reaching the summit of the third hill, the deer heard what he supposed to be the same shout, and he gave up the race in despair. On returning to the starting place, he found his antagonist in a calm and collected mood, and, when he demanded an explanation, the terrapin solved the mystery, and then begged the deer to remember that mind could sometimes accomplish what was often beyond the reach of the swiftest legs."

This variety from so many stories of every ancient nation, teaching the same lesson, by means of different creatures and devices, is well worth joining to their characteristic store. All we shall add to it is, that the whole of Mr. Lanman's volume is as acceptable to our taste, and that we believe our readers will relish as much as we do, his easy and feeling "lucubrations" to diversify the dull business of life.

* Yo-na-gus-ka, or the drowning bear, who died in 1838, aged seventy-five:—"He was a true patriot at heart, and on being reasoned into a correct state of mind, he expressed his determination to create a reform. He first reformed himself, and then summoned a council of all his people, ostensibly but secretly, for the purpose of establishing a temperance society. At this council he made a speech to the effect that they knew he had been an intemperate man, and had discouraged the use of strong drink, which he was confident was rapidly annihilating his nation; he expected to be with his people but a short time, and to extricate them from the great evil he had mentioned was the real purpose of the Great Spirit in prolonging his life; he also spoke of the many evils to families and individuals resulting from intemperance; and when he concluded, it is said that his entire audience were in tears. Taking advantage of this triumph, he called his scribe, (for he himself was an illiterate man,) and requested him to write these words upon a sheet of paper: 'The undersigned drink no more whisky;' to which pledge he requested that his name should be attached. Every member of the council appended his name to the paper, and thus was established the first temperance society among the Cherokees, which has already accomplished wonders. Among the regulations which he afterwards proclaimed, was one that each Indian should pay a fine of two shillings for every offence committed in breaking the pledge, and that the money thus collected should be expended in extending the boundaries of their territory. And here it may be well to mention the fact, that though this 'father of temperance' among the Indians had been extremely dissipated during a period of thirty years, he was never known, even in *the way of medicine*, to touch a drop of spirits after his first temperance speech."

CHESHIRE SPORTS.

Hunting Songs and Ballads. By R. E. E. Warburton. 4to. Pickering.

THIS is an amateur production of great talent, and though mostly of a local, and somewhat of a personal kind, is well deserving of more extended fame. It is dedicated to Lord John Manners, and it is congenial to the sentiments we have continued to enforce, since long before the noble dedicatee and spirited dedicator were in the field, that every encouragement should be bestowed on manly English sports, and, above all, that a participation in them and national games and pastimes should be restored, to reanimate every loyal and social feeling in the sons of toil and the families of industry. All work and no play makes Jack a dull boy: all work and no play makes his father a dissatisfied and discontented man, predisposed and ready to become the instrument of idiot theories and demagogue vanity. The speeches and efforts of Lord John Manners, and others who entertained similar ideas, were a very short while ago laughed to scorn; but mark the result, from the throne to the squirearchy the principle has been established. We have seen Highland sports copied into many parts of England, and nobly patronized; and be assured the practice will strengthen and spread, and we shall have holidays again, instead of all labour days, and no change but the beer-shop and its sequel, the union poorhouse! But truce to remark, and attention to Mr. Warburton, whose lays of Cheshire have quite run away with our city (or, if you like it, Cockney) applause, and would, we are sure, if well mounted, excite us to be at no great distance from the brush when won. But Heaven forefend the temptation!

The pictures of the chase in general effect and in particular details are as graphic as any thing of the sort ever said or sung; and the enthusiasm, as we have owned, is quite catching, whether contagious or merely communicable we leave to learned hunting doctors to determine.

"Oh! give me that man to whom naught comes amiss,
One horse or another, that country or this;
Through falls and bad starts who undauntedly still
Rides up to this motto: 'Be with 'em I will.'
Quæsitum! Quæsitum! fill up to the brim,
We'll drink, if we die for't, a bumper to him.

"Oh! give me that man who can ride through a run,
Nor engross to himself all the glory when done;
Who calls not each horse that o'ertakes him a 'screw,'
Who loves a run best, when a friend sees it too!
Quæsitum! Quæsitum! fill up to the brim,
We'll drink, if we die for't, a bumper to him."

"The Spectre Stag of the Rhine," is a capital legend, and we regret we have not room for it; nor for its compeer, "Reichberger the Outlaw," from Uhland. "The Dead Hunter" is a pathetic bit, and might be prized where "The High Mettled Racer" is admired:—

"His sire from the desert, his dam from the north,
The pride of my stable stept gallantly forth,
One slip in his stride as the scurry he led,
And my steed, ere his rivals o'ertook him, lay dead.

"Poor steed! shall thy limbs on the hunting field lie,
That his beak in thy carcase the raven may dye?
Is it thine the sad doom of thy race to fulfil,
Thy flesh to the cauldron, thy bones to the mill?

"Ah! no.—I beheld thee a foal yet unshod,
Now race round the paddock, now roll on the sod;
Where first thy young hoof the green herbage impress'd,
There, the shoes on thy feet, will I lay thee to rest!"

We will take a piece of pleasant humour to follow, viz., "The Ball and the Battue:"—

"Lay by the silk waistcoat, so gaudy and green!
And clothe me this morning in black velveteen;
A kerchief of blue,
And a waterproof shoe,
For now the Ball's over I'll join the Battue!

"Let the shot belt of leather replace the gold chain,
The ramrod be handled instead of the cane;
A pancake so flat,
Was my ball-going hat,
But a dumpling to shoot in is better than that!

"My fiddle a Manton, a tune I'll prepare
Which shall teach the cock-pheasants to reel in the air;
While snipes as they fly
Pirouette in the sky,
And rabbits and hares in the gallopade die.

"'Once more might I view thee, sweet partner!' 'Mark hare!
She is gone down the middle and up again there'—
'That hand might I kiss,
Mark cock!—did I miss?
Ye Gods! who could shoot with a weapon like this?

"'I've a thorn in my breast which deprives me of speech;—
Ah me! but what's this that I feel in my breech?
Ensnared by thy wit
How deeply I'm smit—
Ods bobs! and I'm half over head in a pit!'

"Thus a glance may from slaughter whole covers reclaim,
Thus oft the fair sex prove preservers of game;
For when the heart aches,
Then alas! the hand shakes,
And sighs beget curses, and curses mistakes.

"Oh! ye who encourage the long-feather'd breed!
To the Ball overnight let the Battue succeed;
Cock-pheasants all,
Be the shot large or small,
May in safety crow over it after a ball."

We remember a friend who used to give a tremendous champagne dinner on the 30th of September to the guests assembled at his munificent board. His covers were not much thinned on the 1st of October. "The Sawyer" is a smart parody, and well worth a place, though away from Cheshire:—

"Away! ye nimble gillies, to the valley and the crag!
We have pellets for the Roedeer, we have bullets for the stag:
My comrades, keep your powder dry, and point your muzzles low;
A mighty deal of killing take these Abergeldie Roe!

"Now Highland gillies screeching wake the echoes loud and shrill,
By shouting we can fright them, though we can't by shooting kill;
There's a woodman at each fir tree, there's an axe at every birk,
And the Sawyer in his sawpit incessantly at work.

"We saw the antler'd monarch bounding proudly to the plain,
We heard the whistling bullet at that monarch aim'd in vain;
The Deer alive and kicking to the distant forest steals,
And the Sawyer kicks the bucket while the stag kicks up his heels.

"His skull was crack'd, his only wage that day was half-a-crown,
He was cutting up a billet when the bullet cut him down;
Many thousand feet of timber had that Sawyer rent in twain,
Now himself was split asunder, very much against the grain.

"We needed not the Sexton with his pickaxe and his spade,
In the sawpit which himself had dug his grave was ready made;
Top Sawyer though he had been, to the bottom he was thrust,
We binn'd him like a bottle of old Sherry in sawdust.

"Full many a railway sleeper had he made since peep of day,
Ere night himself a sleeper in his narrow bed he lay;
No tear-drop unavailingly we shed upon the spot,
But we sprinkled him with whiskey to preserve him from dry rot.

"Oh no! we never mention him, that shot we never own,
We book'd him in the game book as an 'animal unknown;'
Though we know not how his bearnies since their daddy's death subsist,
We know that since we hit him he has never yet been miss'd."

But we must finish, and we can do so as appropriately as if a library chair were constructed out of our own critical skeleton. It is an "Inscription on a Garden Seat formed from the Bones of an Old Racer:"—

"Still, though bereft of speed,
Compell'd to carry weight;
Alas! unhappy steed,
Death cannot change thy fate.
"Upon the turf still ridden,
Denied a grave below,
Thy weary bones forbidden
The rest that they bestow."

Mr. Warburton need not, we think, fear a race with any professed poet; for he is strong in the descriptive, the humorous, and the pathetic.

The volume is also embellished with very clever cuts.

NEW ZEALAND.

Reminiscences of Twelve Months' Service in New Zealand, as a Midshipman, during the late Disturbances in that Colony. By Lieut. H. F. M'Killop, R.N. Bentley.

In the first place, let us congratulate our gallant Middy, the personal captor of the formidable warrior Rauparaha, on his deserved promotion in her Majesty's navy; and, in the second place, let us acknowledge his literary status as ornamental to the profession of which he bids so fair to be a distinguished member. Yet, with regard to his volume, capital sailor's yarn though it be, we will, we trust, be excused if we leave alone the bellicose and most important part of its contents. We have had to do with some of these battles, taking of pahs, skirmishes, and hair-breadth 'scapes, in preceding *Gazettes*, and have no desire to fight them over again. But in honour to our author we will except the Rauparaha (almost Rapparee) affair:—

"It was arranged," our Middy tells us, "that we were to leave the ship before daylight the next morning, and land quietly on the rocks some little distance from the pah in which our treacherous allies lived; taking a mixed force of blue-jackets and soldiers, amounting to 200 men, to support us in case of the natives rising before we had effected our object. It was the Governor's particular desire that we should not lay our hands on these men until we had told them they were prisoners for treason, but on no account to let old Rauparaha escape.

"I took Mr. Dighton with me to act as interpreter, and four of our own men unarmed, giving them directions to seize upon the old chief as soon as he was made aware of the charge preferred against him, and to hurry him down to the boat before he could rouse his people, the principal object being to secure him. We landed at break of day, and while they were forming the troops on the beach, I, with my small party, ran on, as it was then light, fearing that conscious guilt might sharpen their ears and frustrate our plans. When we reached the pah, not a soul was stirring, but our heavy steps soon brought some of the sleepers to the doors of their huts, knowing we were not of the barefooted tribe. We could not wait to give any explanation, but pushed on to the hut which contained the object of our search, whose quick ears had detected strange footsteps; never having liked me, he did not look at all easy on perceiving who the intruder was, although his wife showed no alarm, and received me with her usual salutation. Upon informing him that he was my prisoner, he immediately threw himself (being in a sitting posture) back into the hut, and seized a tomahawk, with which he made a blow at his wife's head, thinking she had betrayed him. I warded the blow with my pistol, and seized him by the throat; my four men, immediately rushing in on him, securing him by his arms and legs, started off as fast as his violent struggles would allow of, which, for a man of his age (upwards of 70), were almost superhuman. He roared most lustily, "Ngatitoa! Ngatitoa!" (the name of his tribe), endeavouring to bring them to the rescue; and in a few seconds every man was on his legs, and came rushing over to see what was the matter with their chief; but the troops and the blue-jackets coming up at the same time, and surrounding the pah, prevented any attempt at a rescue, as he was already in the boat. His last effort to free himself was fastening with his teeth on to my cockswain's shoulder, who bore this piece of cannibalism unflinchingly. I sent Mr. Dighton off to the ship with him, there not being much chance of his escaping from the boat, particularly as he was informed that he would be shot if he attempted to escape. I then returned to the pah to search for arms and ammunition, and also to see if the other prisoners had been secured. The interior of the pah presented a woful spectacle, the women all howling in chorus with the pigs and children, the two latter being much knocked about in the search for arms."

He was detained prisoner a long while, but at last a settlement was effected, and he was set at liberty. Lieut. M'Killop, after a retrospect on past circumstances, and sketches of the leading native chiefs, takes a general view of European intercourse and relations; in which, upon impartial weighing, he discovers many points wherein the natives have been wronged, and many errors which furnish excuses for their acts of resistance and violence. The Wairou massacre, their most sanguinary outrage, was not without some provocation; and, upon the whole, he seems to consider them in a favourable light through all their barbarism, as the annexed extract will show:

"I can only say, that I never knew one of them guilty of dishonesty, in any of the frequent dealings which I have had with them, although I have often trusted them with spirits, tobacco, and gunpowder, all of which they covet excessively. I always found them good-natured, and very quick at understanding the many new offices which they were called upon to perform when employed by me. They are more easily led than driven, and will always resent a blow if given in anger. I think that those who profess Christianity show great care in attending to the forms of their respective faiths, and are mostly sincere. The only hypocrite I ever met amongst them, on a religious point, was John Heki, and he frequently perverted the Scripture to suit his own ends. His intimate knowledge of the Bible astonished me, making use of several lengthy quotations in my only interview with him; and on hearing that I was the person who took old Rauparaha prisoner, he sarcastically asked me how much the Government gave me for taking a poor old man out of his hut when he was asleep; and was I not proud of the achievement? On my answering that I did not get much for this old chief, who was a brave man, but, little as I got for that, I would take him for half the amount, as he was a well-known coward,—his people, who were sitting round, laughed heartily at his expense—a point on which all maories are very sensitive. Nearly the whole of his tribe are missionaries, which is what the natives call all Christians; but they are not good examples to take as showing the success which has attended the missionaries in this colony. Inhabiting a neighbourhood frequently visited by numerous ships employed in the whale fisheries and other trades, the crews of which have not improved the morals, or in any way assisted by their example or precept in impressing them with as favourable an opinion of their Christian brethren as they might have had if thrown amongst a steadier and better educated class of men, has done much to undo the little good they have ever learnt.

"It appears to me unaccountable, but it is nevertheless true, that nearly the whole of the natives who took part with John Heki against the Government in the Bay of Islands were Protestants, and continued most strictly to attend to the forms of their religion throughout the war. They at the same time showed some good feeling towards the missionaries, by respecting their property when they were destroying every one else's. I have observed, that where the natives had little intercouse with Europeans except the missionaries, not being in the habit of visiting the large settlements, or being near the harbours frequented by European vessels, they were always the best behaved; this telling greatly in favour of this much abused body of men.

"The generality of settlers are not aware of the impressions which their thoughtlessness often makes on these ignorant people, who are very quick at detecting anything in a European inconsistent with what they have been told Christians ought to be. They are very superstitious regarding the rites to be attended to on the death of a chief—the keeping sacred the spot where his remains are deposited, which is called tabu: any one, even through ignorance, guilty of intruding on any spot under this kind of interdict, is likely to suffer for it, even to the loss of life. The principal chiefs hold the power of tabuing a road or plantation, or any other place; for instance, Rangahiata tabued the road leading from the principal settlements on the coast, by calling it his backbone; and consequently no one dared trespass on such tender ground: thus cutting off the only means which the out-settlers possessed of bringing their cattle and other goods to Wellington for sale. On its being attempted by an Englishman to drive some cattle along this road in spite of the tabu, his cattle were seized, and himself threatened with death. Some persevering natives of another tribe met with no better success in a similar undertaking: this took place after the Governor had strictly forbidden that such stoppages should be made on any account, and was the immediate cause of the commencement of hostilities in Cook's Straits.

"Great complaints have been made of the filthiness of the New Zealanders, but I have met with very many exceptions to this imputed defect. Their usual mode of life prevents that cleanly appearance which they might have; they of course become dreadfully smoke-dried from their custom of having fires in their huts without any chimney, which not only discolours their skin, but their usual garment or mat naturally becomes very dingy. The habit of rubbing shark oil over the body is growing into disuse, and the wholesome substitute of soap and water superseding it. They are creatures of example, but I do not think naturally fond of dirt. As a proof of what may be done with them, I can safely say that the natives employed in the police force at Wellington and Auckland, in their neat green uniform, look as soldier-like and respectable as any of their comrades, their accoutrements always being well cleaned and kept; and it is astonishing how well these men did their mixed duty of soldier and constable. I have seen them walking about with their carbines under their arms when in charge of the prisoners working on the roads; watching them most intently, not allowing anything to take off their attention even for a second."

As the most novel example of their manners with which we have met in the volume, we copy the report of a process for *crim. con.*, the oddity of which is, that the English legal principle of damages in compensation is virtually arrived at, though by different means than lawyers' pleadings in Westminster Hall:—

"Whilst stationed here, I witnessed the trial and punishment of two delinquents for *crim. con.*; the man was a slave of Pukututu's, and the woman the wife of a minor chief belonging to the same tribe, who was absent with the British force. We were astonished one morning to see our quiet neighbours running out of the pah, and shouting most lustily, taking the direction of the old camp formerly occupied by the troops, on a hill just outside the stockade, in which we all lived together. They were mostly old men and boys, left to take care of the women and children; there were a few young men amongst them, who were employed taking parcels backwards and forwards to and from the camp. Several of us ran out to see what caused this extraordinary excitement. Just as we joined them, they had found the unfortunate woman, whom they had stripped quite naked in a very rough manner, and were dragging her down the hill to the lower pah, on the bank of the river, by the hair. She never uttered a scream, although she was much bruised and cut in her rapid descent. The man was brought down in a similar manner, only he was dragged by the heels instead of the hair. We ran down, and, not knowing what was about to take place, endeavoured to intercede for the culprits, who we fancied would be dispatched with a tomahawk. However, being given to understand they were to be tried, and seeing all the men seating themselves in a ring round the prisoners, we stood by and witnessed the scene.

"The case was opened by an old chief addressing the bystanders, and calling on such of them as took an interest in either of the prisoners to bring 'utu' (compensation for the injury). No question was put to the prisoners, or any accusation made against them; the crime seemed to be acknowledged, as no defence was made. We waited for several minutes, wondering what would happen; not a word being spoken by any of the jury or the grave old judge, who held his tomahawk in his hand, looking solemnly savage. At last the stillness was disturbed by an old woman coming down from the pah with a kit, or small grass bag, of potatoes, which she threw down into the middle of the ring, near the culprits. She was followed by about thirty or forty more natives of all ages, each bringing their load. One threw in a musket, another an axe, another a fish-kettle, and so on, till the heap of goods became rather a valuable collection of maori property: there were several blankets and mats, knives, looking-glasses, fish-hooks, and such like. The crowd then stood round, waiting to hear the decision of the judge. He got up and walked to the heap of goods, turned the various articles over, examining some in his hand; and after a few minutes' delay, he said, 'This is good; let us keep it.' Whereupon the jury, prisoners and all, jumped up and began moving away the ransom to the hut of the late judge, in whose possession it was to remain till the return of the injured husband. It seems that the friends of both parties contributed towards their relief; and had they not been sufficiently popular to have produced generous feelings in their behalf, in all probability the man would have been dispatched on the spot, and the woman by her husband on his return. As it was, they were both free; and the man in a moment recovered his usual impudent, free-and-easy manner. He said, as he passed us, '*All right!*'—which he had reason to congratulate himself for. The poor woman sneaked off, looking as if she thought it anything but all right, and evidently feeling that her punishment was not over yet."

The poor woman, everywhere, has always the worst of it; let us pray that the diffusion of genuine Christianity may work a change in this as in other lamentable respects; and this prayer brings us to a casual notice of the Bishop of Auckland:—

"There are a great many very nice residences at Auckland, prettily situated, facing the sea; being mostly one-storied houses, with verandahs, and at this time of year (January) beautifully decorated with creepers. Some of the gardens are as good as any I have ever seen.

"The government house, which has since unfortunately been burnt down, was a handsome building and prettily situated, and is said to have cost fifteen thousand pounds. The church, standing on a small hill quite close to the sea, gives the town a finished appearance. I believe I ought to call it a cathedral, Auckland being the residence of the Bishop, who does not, however, devote more time to it than to the more out-of-the-way parts of his diocese. Owing to the want of roads, he is obliged to travel in a small yacht, in which way he repeatedly visits every portion of his extensive and wild diocese."

And now to conclude this unpretending and acceptable publication:—

"I am only sorry" (says its observant and intelligent author) "that I have not the ability to do this highly-favoured country justice in describing its many recommendations. I cannot say too much in its favour; and I sincerely hope that, under able management, it will be freed from the heavy clogs which have hitherto retarded its advancement, and, with the assistance of Providence, become the comfortable and happy home of many thousands of our fellow-countrymen who are now wanting the common necessaries of life in England, and be a lasting monument to the memory of those who formed, and carried into execution, the praiseworthy undertaking of colonizing this extensive and unaccountably neglected country."

The complete Poetical Works of W. Cullen Bryant. Kent and Richards.

BRYANT, one of the sweetest of the American minstrel band, has been here comprehended in a very nutshell of neatness and conveniency. It is a most acceptable companion to Longfellow's poems, published in a similar manner. The career of Mr. Bryant has been eminently literary from the age of ten years, (he was born in 1794,) since when he has seldom respited his muse, though occupied incessantly with productions in the *New York Review*, which he established in 1825, and with editing the *Evening Post*, one of the best journals in America, from 1826. The volume deserves a place in every library and shelf where the beauties of poetry can be felt and appreciated. There is great variety of subject and style. At the risk of being familiar to readers (for the author is too generally known for us to avoid it) we insert one of his later pieces, which we select from the rest, as bearing more of American character than others:—

THE HUNTER OF THE PRAIRIE.

"Ay, this is freedom!—these pure skies
Were never stain'd with village smoke:
The fragrant wind, that through them flies,
Is breathed from wastes by plough unbroke.
Here, with my rifle and my steed,
And her who left the world for me,
I plant me, where the red deer feed
In the green desert—and am free.

"For here the fair savannas know
No barriers in the bloomy grass;
Wherever breeze of heaven may blow,
Or beam of heaven may glance, I pass.
In pastures, measureless as air,
The bison is my noble game;
The bounding elk, whose antlers tear
The branches, falls before my aim.

"Mine are the river-fowl that scream
From the long stripe of waving sedge;
The bear, that marks my weapon's gleam,
Hides vainly in the forest's edge;
In vain the she-wolf stands at bay;
The brinded catamount, that lies
High in the boughs to watch his prey,
Even in the act of springing, dies.

"With what free growth the elm and plane
Fling their huge arms across my way,
Gray, old, and cumber'd with a train
Of vines, as huge, and old, and gray!
Free stray the lucid streams, and find
No taint in these fresh lawns and shades;
Free spring the flowers that scent the wind
Where never scythe has swept the glades.

"Alone the Fire, when frost-winds sere
The heavy herbage of the ground,
Gathers his annual harvest here,
With roaring like the battle's sound,
And hurrying flames that sweep the plain,
And smoke-streams gushing up the sky:
I meet the flames with flames again,
And at my door they cower and die.

"Here, from dim woods, the aged past
Speaks solemnly; and I behold
The boundless future in the vast
And lonely river, seaward roll'd.
Who feeds its founts with rain and dew;
Who moves, I ask, its gliding mass,
And trains the bordering vines, whose blue
Bright clusters tempt me as I pass?

"Broad are these streams—my steed obeys,
Plunges, and bears me through the tide.
Wide are these woods—I thread the maze
Of giant stems, nor ask a guide.
I hunt till day's last glimmer dies
O'er woody vale and grassy height;
And kind the voice and glad the eyes,
That welcome my return at night."

Chit-Chat; a Poem. In Twelve Cantos. By Rose Ellen Hendriks. Kent and Richards.

MRS. TEMPLE, as the preface lets out the secret of this eccentric star in our lighter literature of novel, poem, and serial, wherein a Flea plays the Asmodeus. With utter contempt of all rhythm and rhyme, and reckless of persons and *convenances*, our authoress rattles away with a curious fanfarronade about London and its noticeable people. For witty irony we might point to the free and clever stanzas anent Madame Walton, truly confessed in L'envoi to belong to—

. . . . enough of bold and saucy truth,
Imperfect offspring of a truant muse,
Who, gay or sad, is never in "*stiff stays.*"

But we are gagged in respect to offering criticism on this volume, by causes which will be manifest to everybody that reads it.

ARTS AND SCIENCES.

BRITISH ASSOCIATION—BIRMINGHAM.

(Continued.)

THE proceedings of the Congress have terminated, and we may presume to state that the meeting altogether has been as successful as could have been anticipated. The inhabitants of Birmingham are a manufacturing, mercantile, and practical people, and their reception of the Association was precisely what was to be expected from this character. There was nothing of an elevated kind; but a very liberal local subscription was devoted to very convenient systematic arrangements, and the managers appeared anxious to have everything in such order as to tend to the comfort of their visitors. But it cannot be concealed that in the mode of entertainment, much of the spirit which marked the earlier meetings of the Body had yielded to the more sober conventionalities of the Utilitarian sect. There were no glowing hospitalities, such as Edinburgh, Dublin, Newcastle, Glasgow, Cork, and Swansea, at which civic and public entertainments were given. A sort of mechanical form pervaded the whole, leaving, it is true, nothing to complain of, but as certainly furnishing nothing to boast of in the shape of social warmth and intercourse.

We fear that some of this condition must be attached to the Genius of Trade,* and to the main chance, which it is almost a superhuman difficulty to detach from its relations. Thus it appeared that the sciences most prized were, as they naturally would be, those which might contribute to increase the business of the town: mechanics, to advance machinery; chemistry, when it led to the improvement of manufactures; statistics, to supply data for enterprize; and geology, whenever its inquiries embraced mining.

This was the tone of the meeting, and the medium of science brought forward at it was quite in unison with the scale. "The Nobs," as the Birmingham folks called them, took, as is too usual, too much of the exhibition and talk to themselves, and we are not aware that one new native or local person, distinguished by natural or acquired abilities, was called out upon this promising occasion. Surely this wonderful seat of industry, traffic, and competing talent (the extraordinary examples of which we witnessed in many productions all around us) must have had some indigenous Prodigy to appear in the "Parliament of Science;" and this was ever held to be a great desideratum by the Association. As it was, however, they had it all to themselves.

And we regret this the more, because the Association stands much in need of the infusion of new impulses, seeing that its own influence has so materially declined. As it stood at Birmingham, that influence was nearly limited to a few valuable papers, and the mere discussions occasionally in the Section-rooms. Thus the scientific produce hardly reached the medium of intelligence. The last year's volume is decidedly very poor, and the absence of Reports on various branches, which used to bring them up to the latest period, is a loss of one of the chief, if not the chief, recommendation of the proceedings. But, *point d'argent point de Suisse*, without money we could not expect investigations and Reports. At Liverpool and Newcastle we could afford to pay on account of grants 918*l.* 14s. 6d., and 956*l.* 12s. 2d., but at Birmingham, in 1839, we rose to the splendid sum of 1595*l.* 11s. At Glasgow, 1840, 1546*l.* 16s. 4d.; at Plymouth, 1841, 1235*l.* 10s. 11d.; at Manchester, 1842, 1449*l.* 17s. 8d.; at Cork, 1843, 1565*l.* 10s. 2d. And then began the sinking:—York, 1844, 981*l.* 12s. 8d.; Cambridge, 1845, 831*l.* 9s. 9d.; Southampton, 1846, 685*l.* 15s.; and, last of all, small by degrees and beautifully less, Oxford, 1847, 100*l.* 16s. 10d.; and Swansea, 1848, 103*l.* 5s. 9d.! Thus truly it was, the President's boast that the Association had expended 15,000*l.* for the advancement of science, was not 3000*l.* beyond the actual fact; but the drawback was that in 1849, exclusive of Kew, all that was appropriated to that great end was the miserable sum of 33*l.* 17s. 1d. At the same time, we are sorry to say the other expenses are very heavy. Printing, &c., about 960*l.*, and salaries for eighteen months, 500*l.*, come to a devouring total of 1460*l.*, whilst Science languishes for want of food. The early life subscribers have also become not only unproductive, but expensive. These are reasons which render two at least of the new resolutions agreed to on Wednesday, (which we have marked with stars,) very judicious and acceptable, and we look to their producing excellent results.

Before continuing our Sectional Reports, we dismiss the historical proceedings. At the General Committee on Monday, invitations were laid before the meeting by Professor James Forbes from Edinburgh, for 1850; by Mr. G. Ransome and other gentlemen from Ipswich, for 1851, (having gracefully yielded a prior claim); from Belfast by Professor Stevelly, asking for the earliest convenient time, and promising to exhibit, as an attraction, the process of manufacturing Linen complete; from Manchester by Mr. Heywood, who took a neat Parliamentary advantage of the want of definiteness in the preceding, and pressed for preference in 1852; from Hull by Mr. Pearsall; and intimations from Bath and Derby. On the motion of Sir R. Murchison, seconded by the Dean of Ely, the meeting for next year was fixed for Edinburgh, and on the motion of Col. Sabine, seconded by Mr. Horner, Sir David Brewster was elected President by acclamation. [When the Association returned to its birthplace, York, there was a good deal pleasantly and gratefully spoken of its return to its "*Mother's lap*," and we could not help thinking on this occasion of the still stronger proof of filial piety, in going to his Scottish home under the protection of *its Father*.—ED. *L. G.*] On the motion of the Marquis of Northampton, seconded by Colonel Sykes, there were elected as Vice-Presidents, Lord Cathcart, Lord Roseberry, the Right Honourable David Boyle, the Lord Provost, Dr. Lee, Professor James Forbes, and Professor Alison; as Local Secretaries, Mr. Kellet, Dr. Balfour, and Mr. James Todd; and as Treasurer, Mr. W. Brande. The first week in August was appointed for the time of meeting.

Colonel Sabine was re-elected General Secretary, the Association feeling how much it would lose by accepting of his resignation; and on the motion of Dr. Daubeny, seconded by Mr. Babington, Professor Royle (the eminent botanist) was elected as a second General Secretary. Mr. Phillips, the Assistant Secretary, and Mr. J. Taylor, the Treasurer, were re-elected, and the meeting adjourned.

Meeting of the General Committee on Wednesday, and arrangements for the ensuing year.

The last General Committee Meeting was held on Wednesday, at one o'clock. After the confirmation of the minutes, Sir R. Murchison moved, seconded by Colonel Sabine, that the name of the late Speaker Abercrombie—Lord Dunfermline, be added to the list of Vice-Presidents for the Edinburgh Meeting, which was done.

Colonel Sabine then read the different propositions that had passed the Committee of Recommendations, stating that the whole of the applications for money amounted to 371*l.* The Committee, he said, had carefully estimated the "ways and means," taking the receipts as low and the expenses as large as possible. Over the ordinary expenses they considered that they should have a surplus of about 200*l.* Notwithstanding this, it appeared to them desirable to recommend grants to the above amount. They had well weighed each of the recommendations, and could not omit one. At the end of twelve months their condition might be "in excess of income," but they would have made valuable additions to science.

[We rejoice that Kew has not been abandoned, but it does appear to us a strange and singular fact, that up to the nineteenth annual meeting, no donation, voluntary subscription, or legacy, has ever accrued to the funds of the British Association. It numbers in its ranks a host of opulent men, and *quasi* lovers of science; their love, however, has not been a generous love; self reigns, and delights in holding the reins of power and influence; but there has been no bountiful rain to promote the growth of science, no pecuniary self-denial to farther the high and valuable objects of the Association. It is a pregnant fact!]

The following are the grants and recommendations that were passed:—

1. *Involving Grants of Money.*

Sir John F. W. Herschel having reported that the Meteorological Observations made at Kew are peculiarly valuable, and likely to produce the most important results, the Committee recommend that the sum of 250*l.* be voted for the continuance of that establishment for the ensuing year,

That three standard Barometers and other Meteorological Instruments be sent out to the British Consul General at the Azore Islands, with the view of encouraging that gentleman (Mr. C. Hunt) to pursue his Meteorological Observations at the several Islands at which he has British Vice-Consuls—and that Colonel Reid, Colonel Sabine, Sir W. S. Harris, and Professor Phillips be a Committee for carrying out the above objects, with the sum of 25*l.* at their disposal for the purpose.

Dr. Percy and Professor Miller.—To continue Researches on Crystalline Slags, 5*l.*

Dr. Schunck.—To continue Investigations on Colouring Matters, 5*l.*

Dr. Smith, (Manchester).—To continue Investigations on the Air and Water of Towns, 5*l.*

R. Mallet, Esq., Rev. Dr. Robinson, and Professor Oldham.—To Determine by Instruments the elements of the Transit of Natural and Artificial Earthquake Waves, 50*l.*

Dr. Lankester, Professor Owen, and Mr. R. Taylor.—On Periodical Phenomena of Animals and Vegetables, 10*l.*

Mr. Strickland, Dr. Daubeny, Professor Lindley, Professor Henslow.—On Vitality of Seeds, 6*l.*

Professor E. Forbes and a Committee.—To procure a Report on British Annelida, 10*l.*

2. *Not Involving Grants of Money nor Application to Government.*

Professor Powell's Communication on Meteors to be printed among the Reports, and to be continued from time to time.

* That the President of each Section, with two other Members to be named by him, (and the General and Assistant General Secretaries *ex officio*), be a Committee for the purpose of revising the Recommendations which have from time to time been sanctioned by the Association, and for reporting to the Council the steps which, in their opinion, should now be taken to give them the effect which science requires.

That the Council be authorized to institute such steps as appear requisite to carry out this object.

That Meteorologists should be invited to communicate, as they occur, to the Association, through the Assistant General Secretary, any abnormal or other Meteorological Phenomena of interest, observed by them.

That a Committee, consisting of Lord Adare, Dr. Robinson, Professor Forbes, Colonel Sabine, Colonel Reid, Professor Powell, Sir J. Lubbock, Mr. Birt, Mr. A. Smith, Mr. J. A. Brown, and Professor Phillips, with power to add to their number, be appointed to consider the best mode of promoting the observation of Luminous Meteors and Auroras; and that observers be requested to communicate with Professor Powell on Meteors, and with Professor Phillips on Auroras.

That a Committee, composed of Sir H. T. De la Beche, Sir W. Hooker, Dr. Daubeny, Mr. Henfrey, and Mr. Hunt, be requested to continue their investi-

* As an instance of this, we may notice that the greater portion of the *local* fund was expended on getting up the "*Exposition*" (a silly phrase for the good English "*Exhibition*"†) of manufactures, which, we were told, was bringing in a return from visitors of 50*l.* or 60*l.* a day. In the spirit of the subscription, we should imagine that the large sum thus realized should furnish a welcome supply for the benefit of Science and the British Association.—ED. *L. G.*

† To Expose, "to lay open, to make bare."
To Exhibit, "to display, offer to view, show."
Vide Johnson's Dictionary.

gations on the action of Carbonic Acid on the growth of Ferns.

That Mr. R. Hunt be requested to furnish to the next meeting a report on the present state of our knowledge of the Chemical Action of the Solar Radiations.

That Mr. Mallet be requested to complete his report on the Statistical and Dynamical effects of Earthquakes.

That Professor E. Forbes, Dr. Playfair, and Dr. Carpenter, be requested to report on the Perforating Apparatus of Mollusca.

That the subject of Luminosity in Living Animals be recommended to the attention of Naturalists; and that Mr. Darwin be requested to collect and receive observations on the subject.

That Mr. Henfrey be requested to report on the Hybridism of Plants.

That G. R. Porter, Esq., Colonel Sykes, Mr. Tooke, Professor Longfield, Mr. Lawson, and Professor Handcock, be requested to prepare a report on the State and Progress of Statistics; and that Dr. Playfair be requested to co-operate with *him*, [*sic in orig.*]

3. *Involving Application to Government.*

That an Application be made to her Majesty's Government, to establish a Reflector not less than three feet in diameter, at the Observatory at the Cape of Good Hope, and to make such additions to the staff of the Observatory as may be necessary for its effectual working; and that the President be requested to communicate with Lord Rosse, Sir J. Herschel, the Astronomer Royal, Sir T. Brisbane, and Dr. Lloyd, on the subject, and to obtain the concurrence in the application, of the Royal and Astronomical Society, the Royal Society of Edinburgh, and the Royal Irish Academy.

That an Application be made to the Master General of the Ordnance, to have the Levels of the Ordnance Survey of Ireland connected to the Mean Sea Level, as deduced by Mr. Airy from the Tide Observations round that Island; and that the President, Trustees, and Officers of the British Association, and the President of the Royal and Geological Societies and the Royal Irish Academy, be requested to make this application.

That Application be made to the Master General of the Ordnance to have the British Arc of the Meridian published in its full extent, and that the President, Trustees, and Officers of the British Association, Royal Societies of London and Edinburgh, the Royal Irish Academy, and the Royal Astronomical Society, be requested to make such application.

*That the Members of the British Association, who are also Members of the Legislature, be requested to act as a permanent Committee, to watch over the interests of Science; and to inspect the various measures, from time to time introduced into Parliament, likely to effect such interests; and that the Marquis of Northampton, Lord Rosse, and Lord Wrottesley, Lord Adare, M.P., Sir Philip Egerton, M.P., and Sir C. Lemon, M.P., be requested to organize such Committee.

The Numbers present at Birmingham were as follows:—

Old Life Members	277
Old Annual ditto	94
New Life ditto	11
New Annual ditto	32
Associates	439
Ladies	237
Foreigners	32
Total . . .	1122

The money received was about 950*l.*

THURSDAY.

SECTION A.—(*Mathematical and Physical Science.*)

1. Ronalds's (Mr.), general report of proceedings at and in relation to the Kew Observatory, during the last year.
2. Birt's (Mr.), report on the discussion of the electrical observations at the Kew Observatory.
3. Grover (Mr.), on the orbit of the magnetic pole, and on the evidences of a direct attraction of the needle by the two isodynamic poles.
4. Chevalier (Prof.), on a rainbow seen after actual sunset.
5. Powell (Rev. Prof.), on luminous meteors.
6. Lowe (Mr.), on meteors.
7. Birt (Mr.), on shooting stars.
8. Malcolm (Admiral Sir C.), on a meteor seen in India.
9. Twining (Mr.), on teaching perspective by models.

1. The experiments of the past year were:—1. On the management of the light admitted into Mr. Ronalds's camera by suppressing his usual condensing lenses and bringing the index of the magnet nearer to the lamp, by which means the time required for producing an efficient image on the paper was materially diminished. An improvement on Count Rumford's polyflame lamp was useful for heightening the brilliancy of the flame itself. 2. Experiments intended to determine the comparative advantages of a slit in a shield and the index which had been hitherto used. The slit was found far preferable in the case of large and sudden excursions,—such as those occurring in Canada, confirming Col. Sabine's anticipations. 3. On the comparative advantages of the Daguerreotype and Talbotype processes. The former was found for all these uses preferable. 4. Several experiments, more or less successful, on modes of copying the impression of the mercury on the plate,—in which assistance was derived from Mr. Malone. 5. Experiments of etching, either by the mezzotinto or dry-point method, on the daguerreotype plate itself, with a view to the circulation of the original observations, the plate remaining serviceable for more mercurial impressions. 6. Experiments suggested by Dr. Lloyd for procuring on the plate the same kind of zero line for measuring ordinates as Mr. Ronalds had from the first procured upon paper, &c. 7. Experiments for the construction of an instrument for measuring ordinates of magnetic and other curves from the above-mentioned zero line, or in other instances. 8. Experiments for the improvement of daguerreotype apparatus for the process of cleaning, polishing, and coating plates used for the purposes of these observations, with some other experiments of less consequence. The Report, further, contains the full details, illustrated with five plates, of the apparatus, resulting in part from the foregoing series of experiments, and sent by Colonel Sabine to the Toronto Observatory for immediate use. An advantage of this arrangement is, that no *hygrometric* expansion or contraction can have sensible effect on the required results. The following is a list of proposals for new experiments at Kew:—1st. The prosecution of experiments commenced at the Observatory in 1845, and suspended for want of funds, on the important subject of frequency of atmospheric electricity, a subject unaccountably neglected since the observations of Beccaria, at Turin, in the middle of the last century, and one which seems to Mr. Ronalds to grow in importance with the growth of our chemical and magnetical information. 2nd. Experiments suggested by Dr. Lloyd relative to the attachment of the lenses to the magnet itself, the use of deflecting magnets, &c. 3rd. On the best construction of the vertical force (balance) photo-magnetograph. 4th. On the barometrograph, with a view to complete a self-correction for temperature. 5th. On the best construction of the thermometograph. 6th. On long and short magnets, employed in magnetographs. 7th. Experiments, in pursuance of some which were made at Kew, on the insulation of air, charged with given quantities of humidity and of different temperatures, &c.; a subject particularly recommended for examination by Coulomb. 8th. Experiments on apparatus for observing shooting stars. 9th. Experiments on kites at known and constant elevations; in pursuance of one made at Kew in 1847, and with a view to their utility in meteorological research. 10th. Experiments on the comparative advantages of plane and cylindrical surfaces, in reference to their use in self-registering instruments, the cylindrical surfaces being employed in William Nicholson's mode; also on the method of reading off the ordinates of curves produced on such surfaces.

Colonel Sabine, Mr. Gassiot, and others, bore testimony to the great value of Mr. Ronalds's labours at Kew, and to the readiness with which he furthered the views of all who visited the Kew Observatory; and Colonel Sabine especially referred to the instruments constructed there under Mr. Ronalds's directions, and the instructions drawn up by him and sent therewith to private observatories. Great advantage had thence arisen, and on this point alone much inconvenience would result if the Kew Observatory were given up.

2. See last *Gazette*.

3. Mr. H. M. Grover showed an orbitual motion of the magnetic pole, by a series of declination lines drawn from the different observatories of London, Paris, and St. Petersburg, during the space of 250 years. He adopted a system of different horizons, and the North Pole he placed as a common gnomon to all the observations, and deduced these indicating lines by computations of the several variations of the magnetic needles. An extraordinary climax was shown to have occurred in the year 1723, when the horizontal and vertical movements of the needle appear to have suffered a complete revulsion from their former courses, the horizontal having fallen from a maximum of acceleration which had continued to increase from the year 1580, to a complete standstill, or minimum of motion, the dipping motion having changed from a downward to an upward course in the same year. In addition, a direct attraction was shown to exist upon the needle from the isodynamic poles, though of a kind which appeared subordinate to the principal attraction of the moving pole, as manifested in deflexions of the needle from a direct course of declination upon the magnetic pole. The sun's attraction operates secondarily upon the moon's orbit, though a primary source of motion.

4. The rainbow was seen by Professor Chevalier 1′ 48″ after sunset, and a portion of it 2′ 41″. He inferred that horizontal refraction was very much greater, or that the bow was formed much higher in the atmosphere than usually considered.

Mr. Hopkins conceived that atmospheric refraction was the cause of the phenomenon.

5, 6, and 7, were submitted by Professor Powell, whose catalogue of observations of luminous meteors was published in the last volume, for the Swansea Meeting. His present communication was a collection of similar observations arranged on the same plan, supplementary to last year's Report, and then a continuation up to the present day. Professor Powell acknowledged with thanks, assistance from great numbers of observers in this country, as well as on the continent, in India, and every part of the British dominions, and he solicited continued observations, directing observers to note more particularly the time of their disappearance, as this would aid to prove or disprove Sir J. Lubbock's theory, to which, however, luminous trains or streaks seem somewhat opposed. Another point also was the verification of periodical meteors. Periodicity seems confirmed in January, 1847, also in June and in August of that year. Those of the latter month were seen in several places. August, 1848, also, is established by concurrent observations.

The most material point of Mr. Lowe's paper was periodicity. Besides August and November, periods between 22nd and 25th April, from 17th to 20th July, a second November period, 27th to 29th, and from 6th to 12th December, seem established, and to these Mr. Lowe adds one from the 16th to 18th October, which he considers he has himself determined. Showers of shooting stars have not been confirmed of late years, and such an occurrence is unusual. Two meteors were seen in February to cross the sun's disc, and the fact of meteors crossing the disc seems fully confirmed.

Mr. Birt observed several on the 10th August, the motion of some of which was direct, and of others retrograde. This gave him the idea of the earth passing through a mass of them, as that would account for the opposite directions of their course.

No. 8 was an account of a meteor seen at Bombay on the 19th March, 1849, extracted from the *Bombay Times*.

Mr. Hopkins instanced the several communications on shooting stars as a proof of the able working of the Association for the real and sound progress of science—collecting and discussing observations.

No. 9. The models to aid the student were a reticulated plane, and a scale of the proportional decrease of height by distance.

SECTION B.—(*Chemistry, &c.*)

1. Scoffern (Mr.), on the combined use of the basic acetates of lead and sulphurous acid, in the colonial manufacture and the refining of sugar.
2. Wilson (Dr.), on the presence of fluorine in the waters of the Frith of Clyde, Frith of Forth, and the German Ocean.
3. Rinman (Mr.), on phosphorus, as producing cold-short iron.
4. Ward (Mr.), on the comparative cost of working various voltaic arrangements.

1. The principal feature of Mr. Scoffern's communication was separating, by means of sulphurous acid mechanically forced into sugar solutions, any excess of the basic acetate of lead, the best purifying agent known, but hitherto little employed in the manufacture of sugar, owing to the want of such means. By its employment the whole, instead of one-third, of the sugar can be extracted and manufactured, pure and white, and without the labour of skimming. Considerable time, moreover, is also saved. Scum-pressing and blood and lime likewise can be dispensed with in the refining process.

Objections to the use of sulphurous acid, as impairing the grain and giving a taste to the sugar, were raised by Dr. Miller and Prof. Playfair. The specimens exhibited, Dr. Scoffern said, disproved these charges. With reference to voltaic electricity being employed, Mr. Faraday expressed his opinion that Dr. Scoffern's process was applicable, but removing small quantities of lead by voltaic electricity was impracticable.

Professor De Vry, of Rotterdam, remarked that the molasses would contain acetate of lime, and would be unfit for the uses to which it is put in Holland.

2. Dr. Wilson has recently detected fluorine in the hard crust deposited on the sides and bottoms of steam-boilers in which the waters of the Friths of Forth and Clyde are used. The boiler deposit of a steamer using the waters of the German Ocean also readily yielded hydrofluoric acid. Fluorine likewise has been found in calcareous corals from the Antarctic seas, in the teeth of the walrus inhabiting the Arctic seas, by Dr. Wilson himself, and in kelp from the Shetlands. Prof. Voelker, at Dr. Wilson's request, found it in the ashes of the sea pink (*statice armeria*), and in cochlearia Anglica. All these facts support his discovery of fluorine as a new element of sea-water announced to the Royal Society of Edinburgh in 1846; and Dr. Wilson considers that fluorine should now take its place among the acknowledged constituents of sea-water.

Prof. Forchammer said that he had examined the sea-water from near Copenhagen, and had found fluorine, and also in more than fifty different shells and marine plants from various localities. Its quantity, he said, was always greater in sea than in land animals. Mr. Pearsall mentioned examinations of waters from springs and rivers, which appeared to confirm the belief that fluorine is a more commonly diffused element than is usually supposed.

3. Mr. Rinman directed the attention of natural philosophers to the various modifications iron undergoes by foreign ingredients, which may be discovered by chemical analysis, and which, in consequence of their small and irregular quantity, cannot be considered as component parts, but only as modifying the general qualities of the iron more or less according to the larger or smaller amount in which they are present. He referred, for instance, to the presence of carbon, 1 per cent. of which causes the iron to become harder and more fusible. A still larger proportion of carbon makes the iron so hard and stiff that it cannot be bent when cold without breaking, and cannot be welded, being so easy to melt. Experiments on phosphorized iron recently performed in Sweden prove that pig-iron, containing $\frac{1}{4}$ per cent. of phosphorus after being refined and melted with charcoal in a common furnace, produced a wrought iron, bars of which heated and drawn out by a hammer to 2 inches by $\frac{1}{2}$ were broken when forcibly thrown down on anvils on the ground, and could not be bent and folded under the hammer without cracking. Consequently, it appears that pig-iron, containing $\frac{1}{4}$ per cent of phosphorus, produces what is called *cold-short* wrought-iron when it is wrought in furnaces with charcoal. Other sorts of pig-iron, with different proportions of phosphorus, had been used in the experiments, and the results were given. The effect of phosphorus upon iron appears to be very similar to that of carbon, especially as phosphorized wrought-iron when suddenly cooled becomes more brittle than when slowly cooled. The higher degree of brittleness imparted to iron by phosphorus renders such unfit for purposes where strength is required, but phosphorus is very useful for certain kinds of cast-iron, which it renders easily fusible, and more liquid than when carbon alone is employed. A portion of silica does not appear to impart any injurious quality to iron; but on the contrary, as believed in Sweden, silica by its presence gives more strength to pig-iron and more toughness to wrought-iron. If this should be proved, it would readily be seen that silica may neutralize the effect of phosphorus on iron. The Swedish iron ores generally contain phosphorus, as phosphoric acid combined with lime, constituting apatite.

Dr. Percy remarked that many important points relative to iron require a thorough and profound investigation, many of the simplest questions, for instance, on what quality of iron is the production of good steel dependent, yet remain unanswered. All the ores he had examined, including many of those of South Staffordshire, contained phosphorus. The presence of phosphorus probably gave to Berlin iron the fluidity so valuable in casting.

4. Mr. Ward stated that a series of calculations founded on tables produced to the Chemical Section, at Swansea, showed the efficient power of three generally used forms of battery, known as Smee's, Daniell's, and Grove's, equal to 100 pairs of Smee's, 55 pairs of Daniell's, or 34 pairs of Grove's; and that the expense of working such batteries, as regards a standard of 60 grains of zinc in each cell per hour, would be about 6d. 7¼d. and 8d. respectively.

The President, Dr. Percy, remarked that the cost of batteries was one of great interest in Birmingham, where these instruments were largely used for manufacturing purposes.

Mr. Hunt suggested the importance of determining the maximum magnetism which could be produced by a unit of zinc.

Dr. Faraday inquired if Mr. Ward had determined the quantity of light which may be obtained by the use of a given amount of zinc.

Mr. Ward replied that his experiments were not conclusive on that subject.

Dr. Faraday condemned the electric light as a means of illumination, and advocated a diffused light produced by a series of small lights. He also considered that electricity was not a desirable method of producing motive power, and inquired the relative cost of electricity from the magnet and the voltaic battery.

Mr. Shaw observed that the current cost of producing electricity from the magnetic machine was simply the motive power required to give rotatory motion, while on the voltaic battery there was a consumption of zinc and acid, which produced a compound of no value. On the other hand the first cost of the magnetic machine was considerable.

The voltaic battery, we were told, at the works of Messrs. Elkington and Co. was much more economical than the magneto-electrical machine. Their large machine, driven by a steam-engine of 2¼ horse-power, was in motion for the examination of the visitors, but not at work. The above power was inefficient for the effecting rotatory motion, and the electrical power produced was sufficient only for depositions in a single trough, whilst the cost and maintenance in operation of such a machine ought to have worked all the depositing troughs on the premises to render it economical.

SECTION C.—(*Geology and Physical Geography.*)

1. Jukes (Mr. J. Beete), on the General Relations of the New Red Sandstone, the Coal-measures, and the Silurian Rocks of the South Staffordshire Coal-field.
2. Blackwell (Mr. S. H.), on the Igneous Rocks of the South Staffordshire Coal-field.
3. Blackwell (Mr. S. H.), on the Faults traversing the South Staffordshire Coal-field.
4. Lea (Mr. Isaac), on the Discovery of Reptilian Footprints in the Old Red Sandstone, near Pottsville, Philadelphia.

1. One of the most interesting and practically important questions in the Geology of the Midland Counties is, what is the nature and position of the rocks which lie concealed below the great extent of new red sandstone that spreads over that district. While the rocks above the new red sandstone on the east stretch uninterruptedly across the island from sea to sea in a direction nearly N.E. and S.W., and a portion of the new red sandstone itself follows the same course, the rocks below the new red sandstone, on the other hand, have not the same regularity of position. These lower rocks, including the carboniferous formation, and all below it, are arranged in a more complex manner—one part curved round the principality of Wales, another bent into a low arch forming the Penine chain that stretches from Derbyshire to Northumberland, and a third portion arranged around the lake district of Cumberland and Westmoreland. Between the end of the low arch in Derbyshire, and the north-eastern flanks of the Welsh mountains, there is a wide gap now occupied by a plain of new red sandstone running out to the sea in Cheshire and Lancashire. On each side of this plain of new red sandstone, small detached coal-fields show themselves resting on the flanks of the older rocks, while three islands of coal, as it were, are entirely surrounded by new red sandstone—namely, the coal-field of Leicestershire, the coal-field of Warwickshire, and the coal-field of Staffordshire. From a cursory examination of the edges of these coal-fields made many years ago, Mr. Jukes was led to speculate on the probable nature of the spaces intervening between them; and from some facts observed, it appeared likely that these coal-fields were not bounded by true faults, but by old cliffs or slopes caused by denudation. The difference is one of the greatest importance, because if the present boundaries of the coal-fields were the result of great downcast faults, we might expect to find all the coal-measures quietly reposing beneath the new red sandstone over the whole space around them; but if the boundaries were cliffs, then it would be probable that the previously existing coal-measures had been wholly or in great part destroyed and removed before the deposition of the new red sandstone.

The satisfactory solution of this problem is one of the objects that is hoped to be attained by the Geological Survey of Great Britain. The survey of the South Staffordshire coal-field is by no means complete, but the author said they were unwilling to allow the British Association to meet in its immediate neighbourhood without having some progress to report to them, and, therefore, with the sanction of Sir H. De la Beche and Professor Ramsay, he proceeded to lay before it the map, so far as it is finished, and a few of the sections roughly enlarged for the occasion.

The general outline of the structure of the South Staffordshire coal-field is very well known, from the great work of Sir R. Murchison. It is composed of three groups of stratified rocks—the new red sandstone, the coal-measures, and the Silurian formation, each of these groups being unconformable to the other. This unconformability is very seldom locally apparent, the rocks often reposing on each other with the same dip and strike, or at angles so little varying as not to be appreciable; but it is shown by each formation resting on different portions of the subjacent ones at different places. On the western side of the coal-field, wherever any part of the Silurian formation shows itself through the coal-measures, it is found to be the Ludlow rocks, with a band of limestone, supposed to be the same as the Aymestrey. This is the case at Sedgley, at Turner's Hill, and at the Hayes, not far from Stourbridge. In the centre of the field the coal-measures rest on the upper portion of the Wenlock rocks, which are protruded at Hurst's Hill, the Wren's Nest, and Dudley Castle, and are found below the coal at several other spots by shafts. At Walsall, again, on the east of the field, the upper part of the Wenlock rocks peeps from beneath the coal-measures,

and still farther east the lower portion rises to the surface, till at Hay Head, near Ban, another much lower limestone appears, which is believed to lie probably on the parallel of the Woolhope limestone of Sir R. Murchison. Now, on the shale between the Hay Head limestone and Walsall, the lower coal-measures may be seen reposing at several places, and the Blue Flats ironstone has been worked there. At one place north of Walsall, indeed, the coal-shales and ironstone may be seen resting on the limestone and overlapping it, and may be traced some distance beyond its outcrop to the eastward. Again, on the south of the district these coal-measures rest on the Silurian shale, near the Lickey, and come close up to the narrow ridge of greywacke, which Sir R. Murchison has shown to be nothing but altered caradoc sandstone. The manner in which this unconformability was caused, was no doubt by a gentle uplifting of the Silurian rocks, giving them a westerly dip, and by a very considerable denudation of them previous to the deposition of the coal-measures. In the cutting of the railway near Dudley, this was clearly shewn; the Silurian shale here was covered by coal-measure shale and sandstone, both nearly horizontal; but in one place was a step or cliff in the Silurian, against which some of the coal-measure beds ended abruptly, and the lower beds had small grey pebbles, making it look like an old beach.

There can be little doubt that the unconformability of the new red sandstone to the coal-measures is of the same nature, and produced by the same cause, but owing to there being no natural sections in the new red sandstone of sufficient depth, and but few artificial shafts, the facts are not so obvious. One clear case is, however, sufficient, and this is afforded us by comparing the sinkings of West Bromwich with those near Hales Owen. At West Bromwich, where there are now several shafts piercing through the new red sandstone down to the thick coal, the total thickness of the upper coal measures between the thick coal and the new red sandstone is not more than 120 or 130 yards, while at Great Bridge, about a mile off, there is 190 yards above the thick coal, with no new red sandstone. 200 yards is a frequent depth throughout the field, and at Hawn colliery, near Hales Owen, there is full 300 yards of coal-measures above the thick coal without any trace of new red sandstone. Mr. Jukes, referring to the map and sections, briefly described the edges of the South Staffordshire coal-field, so far as they have been at present traced by the survey commencing at Walsall, and the general results appear to be:—

(1.) There was a slight movement, and considerable denudation of the Silurian rocks, before the deposition of the coal-measures.

(2.) There was a movement, and a considerable denudation of the coal-measures, amounting in some small localities to utter destruction of and removal of them, before the deposition of the new red sandstone.

(3.) There was very great movement (producing present faults and inclined positions) of all the rocks subsequent to the deposition of that part of the new red sandstone which is adjacent to the coal-field.

(4.) The South Staffordshire coal-field exhibits on the three sides at present surveyed, examples of each of the three possible relations of the new red sandstone and the coal-measures.—On the south, where the new red sandstone rests quietly on the coal-measures, ending simply by escapements; on the west, where they are brought together side by side, owing to great faults, but where it is probable that the whole, or nearly the whole, of the coal-measures are concealed under the new red sandstone on the downcast side; and on the east side, where the new red sandstone is indeed brought down by downcast faults, but where great destruction and denudation had previously taken place in the coal-measures, so that in some places the new red sandstone probably rests on Silurian rocks.

As a practical conclusion, I would state that while there is great hope that by far the larger part of the new red sandstone plain conceals coal-measures beneath it, it would not be advisable rashly to commence a search for them, nor without due consideration and competent advice, because there are places where other rocks than coal-measures are likely to be found. If I were asked what was the minimum depth at which productive coal-measures were likely to be reached in those places where their existence is most probable, I should mention 500 or 600 yards as the least which a speculator ought to pierce through before his hopes are accomplished.

2. 3. Mr. S. H. Blackwell's two papers on the South Staffordshire coal-field, excited great attention, and are ably abstracted in the *Birmingham Journal*. which anticipated us completely by an early publication on Saturday morning, with the best Report of Proceedings (even including Friday's) which we have seen in a local newspaper since the British Association began its course.

With regard to the igneous rocks, it was shown that the existence of beds of trap rock had been noticed partially before; it remained, however, for the Dudley Geological Society to carry out a complete examination of them. He described the superficial development of the igneous rocks in the district. At one time it was supposed, from variations in thickness and position of the beds, that they were distinct and separate. This opinion, however, existed no longer. The following results had been shown by examination,—namely, That the Wolverhampton bed of "green rock," as the igneous rock was called by the miners, was only one single bed; that its area could already be traced from a point within one mile north of the Rowley Hill to near Bloxwich, if not to Essington brickyard—the former a distance of seven, the latter of nine miles. This area varied much in width, its greatest breadth being probably between Wednesfield and the Birch Hills, a distance of four miles; that the apparent conformability of this bed with the coal measures, where sunk through at isolated points, no longer exists when considered as one single bed; that throughout the entire area over which this bed of "green rock" exists, the coal measures lying above it were much more irregular than those below, arising partly from the numerous "small faults" or "slip things," (as the miners called them,) by which the ground above the bed of "green rock" was traversed, partly from the extremely irregular upward surface of the bed itself, and partly from the presence of numerous vertical veins of white rock, which are thrown off in all directions from its upper surface. These points were illustrated at great length, by details of a very minute kind, and by numerous admirably executed diagrams, illustrating many curious geological points. With regard to the "faults," the South Staffordshire coal-field was bounded on the west by a great line of "fault," which extended from the Clent Hills to Wolverhampton, and on the east by another line of "fault," by which the coal strata were abruptly cut off. Between these it was again divided by a line of hills extending from Sedgley, through the Wren's Nest and Dudley Castle, to the Rowley Hills. To the north of this line the surface of the coal-field was almost one unbroken plain; but the mining operations showed that beneath the surface the coal beds were broken and displaced by a series of "faults," ranging nearly east and west, by which the beds of coal became deeper towards the south, by a succession of steps—the greatest depression being at Dudley Port. In the southern part of the coal-field, from Rowley Hills, the surface was more broken by the igneous rocks as before described; and there were also numerous "faults" running north-east and south-west, and some of them extending from one boundary "fault" to the other. The most remarkable of these "faults," was that they commenced at either end by a very small displacement of the coal, which gradually increased, till in the centre it amounted to more than 100 yards.

A short discussion followed, in which Sir H. De la Beche remarked that these "faults" might be compared in extent and thickness with the sheets of lava which had been recently vomited forth by the volcanoes in Iceland; and Professor Sedgwick observed on the difficulty of accounting for the introduction of these great masses of igneous rock into their present position, they having evidently been forced laterally between the other rocks.

4. Mr. Isaac Lea's (the well-known American Conchologist of Pottsville) communication was in the form of a letter to Dr. Buckland, and stated that he had discovered the footprints in *bas relief* of a reptilian quadruped, lower in the series than had previously been found. In examining the strata in the gorge of the Sharp Mountain, near Pottsville, where the Schuylkill breaks through it, a large mass of remarkably fine old red sandstone attracted his attention. Imprinted on it he was astonished to find six distinct impressions of footmarks in a double row of tracks, each mark being duplicated by the hind foot falling into the impression of the forefoot, but rather more advanced. The strata were tilted a little over the vertical, and the surface of rock exposed was about twelve feet by six feet, the whole of which surface was covered with ripple marks, and the pit of rain drops beautifully displayed in the very fine texture of the deep red sandstone. The six double impressions distinctly showed in the two parallel rows formed by the left feet on the one side, and the right feet on the other, that the animal had five toes on the forefeet, three of which toes were apparently armed with claws. The length of the double impression was four and a quarter inches, the breadth four inches, the distance apart in the length of the step of the animal thirteen inches, across from outside to outside, eight inches. The mark of the dragging of the tail was distinct, and occasionally slightly obliterated a small part of the impressions of the footmarks. The footmarks assimilated remarkably to those of the recent *Alligator Mississippansis*, and were certainly somewhat analogous to the *Cheirotherium*. The geological position of this reptilian quadruped was of great interest, from the fact that no such animal remains have hitherto been discovered so low in the series. Those described by Dr. King in the Great Western coal-field, were only 800 feet below the surface of the coal formation. The position of the Pottsville footmarks was about 8500 feet below the upper part of the coal formation there, which was about 6750 feet, according to Professor Rogers, and they were in the red shale, (his No. 11,) the intermediate siliceous conglomerate (No. 13) being stated by him to be 1031 feet thick. These measurements brought these footmarks about 700 feet below the surface of the old red sandstone. Mr. Lea had named this specimen *Souropus primævus*.

SECTION D.—(*Natural History, including Physiology.*)

1. Daubeny (Professor), report on the action of carbonic acid on plants allied to the fossil remains found in the coal formation.
2. Pring (Dr.), on the noctiluca miliaris, the source of the phosphorescence of the British Seas, with remarks on the phenomena of vital phosphorescence.
3. Whitby (Mrs.), on the cultivation of silk.
4. Paxton (Dr.), on pathological drawing.

1. In this Report Dr. Daubeny stated, that during the late spring and summer he had experimented on ferns inclosed in an atmosphere containing certain measured quantities of carbonic acid, by means of an apparatus of better construction than the one with which he had operated in the preceding year. The results, however, at which he had arrived did not differ materially from those to which the preceding experiments had conducted him. When the amount of carbonic acid introduced did not bear a larger proportion than five per cent. to the common air present in the jar, the ferns did not appear to be in the least injured, although his investigations have not yet proceeded far enough to enable him to affirm that they became more vigorous and healthful in consequence. When the proportion of this gas was as much as twenty per cent., the fronds became in the course of a fortnight sickly, and faded, and this was the case whether the addition was made gradually, or all at once. This conclusion is consistent with the result of an experiment which the author made on fresh leaves immersed in different jars of water, containing various proportions of carbonic acid gas, when it was found, that when the latter bore the proportion of one to three to the water which held it in solution, little or no carbonic acid was decomposed or oxygen ob-

tained, although these effects took place abundantly when the proportion was smaller. The general tenour, however, of these experiments lends support to the opinion of those geologists who conceive that the luxuriant vegetation of the carboniferous period implies the existence of more carbonic acid in the atmosphere than is now present; nor can it be urged, as an objection to such an hypothesis, that the animals of that period would have perished in an atmosphere so constituted, as Dr. Daubeny has found that the fish and reptiles of the present day are capable of existing when the atmosphere contains as much as five per cent. of carbonic acid gas.

This being one of the very few Annual Reports upon which we have remarked as the most valuable in the archives of the Association, as establishing the conditions of particular scientific inquiries up to certain limits, led to considerable discussion, as it also did afterwards in the Chemical Section, B. Indeed, the action of carbonic acid in many of the phenomena of nature appears now to be creating increased interest and provoking many experiments. The opinions of Mr. Austin, Dr. Lankester, Prof. Milne Edwards, Mr. Peach, and others, were given, but none of them seemed to decide any of the questions which arose out of the investigation.

2. Dr. Pring's paper, on a very popular subject, referred to the various hypotheses concerning the phosphorescence of the seas, the number of phosphorescent animals that inhabit the ocean, and the luminosity of the human living subject. Some fishes emitted a strong phosphorescent light, like stars, on their scales, which disappeared after death. Sometimes this light was silvery, at others it was compared to liquid fire. A bucket of luminous water, taken into a room, illuminated the room. There were many reasons assigned for this; some attributed it to the action of the gases. The carbonic acid gas made the light more brilliant, lasting fifteen minutes; and then the loss of light was supposed to be consequent on the death of the animalculæ. The luminosity lasts longer when least exposed to the action of the air. Æther and chloroform were supposed to have some influence in the production of this light. A bright phosphorescence was given out under the influence of the latter, the specks of light fell to the bottom of the water, and were extinguished.* The paper then treated of the phenomenon of vital phosphorescence. The glow-worm has phosphorescent organs. The noctiluca loses the light in oxygen in eight or nine minutes. An American author has said, that but for the opacity of our bodies we should shine ourselves—that it is a concomitant of animal life. Macartney was of opinion that this light consisted of mere scintillations. Foster observes, that the phosphorus of the glow-worm is liquid; others maintain that it is a substance contained *sui generis* in all forms of life. When the sea water was converted into ice it still preserved its phosphorescence. The uses of this light are supposed to be for the defence of the animal. No conjectures, however, on this head are satisfactory. The object of this paper was obtained if it had the effect of giving an outline of a subject, to be hereafter filled up by abler hands.

From the conversation which ensued, and threw no *new light* on the subject, it appeared that this was the sense of the meeting, since neither excitement, the deposit of phosphorescent matter, electricity, combustion, nor any other suggestion offered, were deemed sufficient to account for the phenomena.

3. Mrs. Whitby's continued experiments on the growth of silk, brought forward at Southampton, were detailed in a letter, which announced that she had improved so much as to render the task easier and the product more abundant. She trusted to see the growth of the mulberry and the cultivation of silk encouraged in England, so as to become a source of national wealth.

4. Dr. Paxton's paper could not be understood without the drawings.

[Section F we reserve for a future *Gazette*, Mr. Porter's paper being too long for this No., and blending with others of a later date.]

SECTION G.—(*Mechanics.*)

1. Roberts (Mr.), on a method of supplying the boilers of steam-engines with water.
2. Wishaw (Mr.), on a chain pipe for sub-aqueous telegraphs.
3. Roberts (Mr.), on an excentric gauge for wire, sheet-metal, &c.
4. Roberts (Mr.), on means for winding clockwork by the agency of the tide.
5. Smith (Mr.), on the superiority of macadamised roads for the streets of large towns.

1. This section showed a better face at Birmingham than at Cambridge, where it was thrown overboard, and some interesting improvements and inventions were brought forward; but we have to notice that in many cases it is impossible to convey (especially to general readers) any adequate idea of them, without seeing the models; and that in fact we chiefly obtained our information from examining these at the closing of the section, and not from their descriptions or the discussions to which they gave rise. The invention of Mr. Ward, detailed in the first paper, was intended to obviate the inconvenience and uncertainty that arise from the use of the float, particularly in marine boilers, where the oscillation of the water prevents accurate indication; but Mr. Roberts stated that the principle was known and applied above thirty years ago, and it seemed to be determined that, since then, superior contrivances had been introduced to effect the purpose.

2. Mr. Wishaw stated that, subsequently to the explanation he gave at the meeting of the Association, at Swansea, of his method of covering the telegraphic wire with gutta percha, he had invented a method of preserving the tube from damage when laid under water. The pipe into which the wire covered with gutta percha was placed, consisted of a tube of metal, jointed at every two or three feet, as the sinuosities of the river or the various levels of its bed required. Twelve hundred feet had been laid down in the Rhine, near to Cologne, and it had answered its purpose well. The tube was payed out from a vessel, and pinned down to the bed of the river, accommodating itself to any sinuosity or change of level.

3. Mr. Roberts' invention of an Excentric Gauge for Wire, Sheet Metal, &c, consists of a plate of brass about four inches and five-eighths in diameter, and a quarter of an inch in thickness, is recessed on the upper side to the depth of an eighth of an inch, and diameter of four inches, leaving a margin five-sixteenths of an inch broad. In the centre of the recess is a hole, into which is fitted a steel pivot, whose upper end is riveted into a steel disc thirty-eight inches diameter, and one-sixteenth of an inch thick; the pivot is excentric to the disc one-tenth of an inch, and consequently one point in the periphery of the disc touches the inner edge of the brass margin, with which the top of the disc is level. To the under side of the brass plate a small slide is fitted, to the outer end of which a piece of steel is attached, (by screws,) that passes up through a notch in the brass about half-an-inch, and forms the inner or sliding jaw of the gauge; the outer jaw is formed of a similar piece of steel, also passed through the notch in the brass margin, and is screwed to the brass plate by screws. The inner edge of the sliding jaw is rounded to a radius of one-sixteenth of an inch, and is kept in contact with the periphery of the excentric disc by a spring under the disc, which acts against a stud in the slide projecting through the brass plate. The margin of the brass plate is divided through one-fourth of its circumference, commencing at the centre of the sliding jaw, into seventy-five equal parts, which are numbered decimally. The extremity of the disc is then set at zero on the scale, and the jaws accurately adjusted to touch each other, after which the extremity of the disc is turned to the tenth division, and a line is made in the disc to correspond with zero on the scale, at which point the jaws will be opened a little. The Excentric Metal Gauge possesses the following properties:—Firstly, a corresponding gauge may be made without expensive tools from a written description of the means employed to make the original. Secondly, it admits of accurate construction and easy re-adjustment. Thirdly, each succeeding number being larger than the preceding, in a progressively increasing ratio, adapts the gauge equally well for high or low numbers.—Some conversation arose on the principle of measuring and numbering at present pursued. It was stated by Mr. Knight and others that there was no system—that each man adopted the method of numbering which might accidentally recur to him.—Professor Willis remarked that the great difficulty was to get every one to adopt this or any other gauge as a standard. He considered that the mathematical nicety of the four-inch gauge of Mr. Roberts was an objection, for it would be difficult to attain that precision in all gauges made for it.

4. The patent for the tide-winding apparatus could not, we think, be understood without illustrations and diagrams. It appeared to us to be exceedingly ingenious. The *Birmingham Journal* (to which we are again and again obliged) says,—"Two chain-wheels or pulleys loose on a shaft, are provided with studs or projections on their peripheries to prevent the chain from slipping. The pulley is placed on a stud in the framing, under which pulley the chain also passes. A hollow weight to ascend and descend with the tide, and a counter weight heavy enough to hoist the weight at first alluded to, and preserve the tension of the chain whilst the tide is rising, are provided, the hollow weight being sufficiently heavy to hoist the other two during the ebbing of the tide. Whilst the hollow weight is rising with the tide, one of the pulleys rotates, and carries with it ratchet clicks over the teeth of a wheel, whilst the chain passing from the hollow weight to one of the other weights just alluded to, allows the latter to descend, and the clicks upon one of the pulleys, by operating on a ratchet-wheel, to effect the rotation of the shaft, the weight operates upon the shaft, to which is attached clock-work, or other mechanism. During the ebbing of the tide and consequent descent of the hollow weight, the weights and counterweight are made to ascend and descend in an equal and corresponding ratio. During both changes of the tide the weight descends, and maintains by its gravitation the motion of the clock-work or other mechanism, until the influx or efflux of the tide re-winds it."

5. Mr. J. Pigott Smith, Surveyor on the Birmingham Street Act, asserted the superiority of broken stone roads, if properly laid down, over all others for the streets of towns. Comfort, economy, and permanency, were the results of his system, and the use of sweeping machines and water had diminished the cost of repairs one-third in seven years.

Mr. Heaton's paper was not read.

There was a *soirée* in the evening, and Mr. Gassiot's resplendent electric light from his hundred-plate battery was exhibited, and delightfully explained in a familiar manner by Professor Faraday.

LITERARY AND LEARNED.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

Sept. 12th.— Council Meeting.— Mr. Warren, of Ixworth, communicated a notice of the discovery, at Stow Heath, of spears, umboes of shields, amber and glass beads, and Roman coins, on the site of a Saxon burial place. The coins, which are of the latest period of the Roman occupation of Britain, had been strung with the beads and worn as ornaments. Messrs. Burkitt and Roach Smith exhibited a large assortment of Roman coins and other remains recently found at Springhead, in the well-known beautiful gardens, the property of Mr. Silvester. Near the wall of a large building which has been only partially excavated, two urns were found, remarkable as being of the same peculiar type as a variety of the Upchurch vases found on the site of potteries which probably

* The writer described his own experiments at Weston-super-Mare on the noctiluca miliaris, a very small vesicular creature, not more than 1-1000th of an inch in diameter, but possessed of extraordinary luminous qualities, so great indeed as sometimes to make the sea look as it were a sheet of fire. Its anatomy and structure were minutely examined, and the effects of various combinations upon its lucidity: galvanism, oxygen gas, and carbonic acid, augmented it; but the latter soon destroyed the noctiluca, as sulphuretted hydrogen did its light. Other results were detailed, and a comparison instituted between them and Mateucci; experiments on the glow-worm led to the conclusion that nothing more certain relating to animal luminosity could be established than the theories already known.

supplied not only Kent but other parts of Britain with earthenware. There have also been some remarkably well-preserved querns, or hand-mills, found at Springhead. The foundations of the Roman houses in the field adjoining Mr. Silvester's property, it is understood, will shortly be excavated by Mr. Collyer, the proprietor, an active and zealous member of the Association. Mr. T. C. Brown, of Cirencester, communicated an account of the discovery of a well-preserved tesselated pavement in Dyer-street of that town. (The particulars have already appeared in the *Literary Gazette*.) Mr. Brown subsequently reported that after taking up the pavement, Lord Bathurst ordered the other part of the street to be examined to the same level. The result was the discovery of another pavement of equal, if not superior workmanship to the former. The portion at present laid open appears to be the centre compartment of a room; it exhibits, Mr. Brown states, a splendid head of Ceres, in rich colours, worked in small tesseræ; the head is enclosed in circular borders, surrounded by geometrical patterns in various colours, bounded by a plain red border. Earl Bathurst intends removing this valuable addition to the rich stores of antiquity already afforded by Cirencester; and Messrs. Baily and Jones are making careful drawings of them all, for publication. Mr. Norris, of South Petherton, exhibited a silver Roman dice, in the form of a man with his legs gathered up. It resembles some in the cabinet of Lord Albert Conyngham, found in a tomb near Marseilles. Mr. Roach Smith laid before the Council some unpublished particulars which he had received from the Rev. Edmund Kell, of Newport, Isle of Wight, relative to the opening of a barrow on Arreton Down many years since. The account is from the memorandum book of Mr. Thomas Cooke, who assisted at the excavation, and will form an interesting supplement to Mr. Dennett's paper on the tumuli of the Isle of Wight, published by the Association. Mr. Smith stated that he had obtained the following information relative to the mural paintings in Northwood Church, in the Isle of Wight, which, during the last summer, had been summarily destroyed. His correspondent writes thus:—"It appears there were several red figures wearing horns, leading a woman with a long dress and belt; there was also a monstrous animal with flames issuing from its mouth. I remember a somewhat similar painting in the Convent of St. Domingo, at Manila. There is some talk of a vestry being called relative to the destruction of the paintings, but I fear the apathy of the people will nullify it." There were several other communications, including an account of the recent discovery of a Roman tesselated pavement, near St. Michael's Church, at Old Verulam.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE Society of Antiquaries of Scotland have recently received a valuable addition to their extensive and varied Archæological Museum, by a gift of nearly forty different specimens of Danish antiquities of the stone and bronze periods, transmitted from the Royal Society of Northern Antiquaries of Copenhagen. Among these are several rare varieties of the stone hammer, flint knives, saws, daggers, lance-heads, and hatchets, some of them of unusually large size; three bronze torques, one of them of very singular workmanship; two fine bronze armillæ; two copper knives, of the singular shape rendered familiar to our readers by Lord Ellesmere's translation of the *Guide to Northern Archæology*, (p. 57.) The collection also includes several fine specimens of the large bronze hair-pins common to Denmark, Scotland, and Ireland; and of the Celts, adzes, or palstaves, looped spear-heads, &c., likewise common to both countries, and indeed found throughout the whole of Northern Europe. This valuable collection of Danish antiquities is returned as an acknowledgment of a gift selected from the duplicates of the Edinburgh Museum, and presented by the Council of the Scottish Society, some time since, to that of Denmark. We ought not to omit in our enumeration of these Danish antiquities, a beautiful large bronze brooch, similar in general character to one engraved in the *Archæological Journal*, (vol. v. p. 221) and described—erroneously, as we think,—as an Anglo-Saxon fibula. Northern antiquaries at least, both of Scotland and Denmark, agree in assigning their origin to a much earlier era. Interchanges conducted in such a liberal spirit as this cannot but be productive in every way of the very happiest results.

FOREIGN CORRESPONDENCE.

FRANCE.

(*From our own Correspondent.*)

Paris, Thursday.

THE newspapers are again solemnly assuring the public that a general *reprise* of commercial transactions has at length taken place in this city. This may be true of some branches of commerce, but it is most certainly not true of the trade of printing and selling books, for all that the official list of new publications continues to offer for the satisfaction of literary curiosity are batches of political and Socialist pamphlets, puffs on quack medicines, records of religious miracles for the peasantry of distant parts of the country, treatises on gardening, vaudevilles, school-books, and such like trumpery. The unhappy M. Capefigue has, to be sure, brought out another of his ponderous tomes on "*La Société et les Gouvernements de l'Europe depuis la chute de Louis Philippe jusqu'à la Presidence de Louis Napoleon Bonaparte;*" but this counts for nothing, as, with the exception of the writers of the *Globe* of London, and the cheesemongers of Paris, nobody on the wide earth cares one straw for the good gentleman's solemn lucubrations.

France has its "Congrès Scientifique," as England its "British Association for the Advancement of Science," and both are at this moment in session, the former at Rennes, the latter at Birmingham. But whilst the British Association, from the importance of its scientific proceedings, attracts universal attention in England, and even on the Continent also, the unfortunate Congrès Scientifique is unnoticed, uncared for, unknown,—so much so, that it was only by accident that I, whose duty as your correspondent requires me to be *au courant* with such matters, became aware that it is now sitting. The gathering which it has caused is not to be compared for a moment with that of the British Association: no foreign ambassadors express pride in being its guests —no *savants* of world-wide renown take part in its transactions. It may be doubted, too, whether its deliberations are of much importance in a scientific point of view; at all events, it is certain that no scientific periodical and no newspaper have considered it worth while to report them: in fact, the Congress itself seems tacitly to admit its own utter insignificance, for in a *bulletin* which it has caused to be printed, the most notable matter it records is, that it has passed resolutions to call on the government to make an annual allowance to its funds.

The publishers are already advertising the almanacks of the coming year. There is, by the way, no branch of publishing which is *exploited* (if a good French word sadly wanted in your language may be so Anglicised) as that of almanacks. The quantity which the Parisian presses pour forth is truly extraordinary; it must amount to hundreds of thousands, nay, it is scarcely too much to say—millions. Political, literary, scientific, religious, military, naval, astrological, theatrical, musical, agricultural, pastoral, historical, surgical, medical, horticultural, legal, comical, artistic, and illustrated—for the *salon* and the kitchen, for old and young, married and single, rich and poor, learned and ignorant—there are almanacks for all, of all prices, all sizes, all qualities, and all shapes. Perhaps in English estimation the most remarkable in the huge legion are the political. Every party has its almanack, and it is by no means its least powerful instrument of *propaganda*. The Republicans, the Phalansterian Socialists, and the Legitimists employ these things on the largest scale, and it is not a little amusing to see them mixing up Republicanism, Socialism, and Legitimacy with records of the time of the rising of the sun, the comings of new moons, remarkable historical events, predictions of the weather, instructions for the management of gardens, and other almanack lore. Next to the political, the astrological would attract attention; to do them justice, they do not mince matters: to directions how to raise the devil, to turn lead into gold, to exorcise witches, and to perform the most fearful incantations, are added predictions so appalling as to make the flesh creep,—destruction of thrones, the slaughter of kings, revolutions, fire, pestilence, famine, murders, and the last judgment, are announced for at least twice in the year.

The Revolution of February has had a singular effect on the theatres. In the first place, it has deprived the popular performers of their extraordinary *prestige*. Bouffé, Dejazet, Duprez, Carlotta Grisi,—even Rachel herself, are no longer the money-drawing idols they once were: playgoers now care far more for well-written pieces, well performed, than for the most brilliant stars. In the next place, adultery has lost its charms—"has ceased to please." At one time, you will recollect, this great social crime was an almost indispensable ingredient in every comedy and vaudeville; it was always a subject of smart *persiflage*, always represented as a matter of course, and as a pleasant and harmless incident in the insupportable monotony of wedded life. Now, however, it is completely *tabooed:* husbands and wives on the stage are made to love each other as husbands and wives should do, and, consequently, to shun mutual treason to their plighted faith as they would a pestilence. This is very edifying, and, strange to say, the pieces are, on the whole, just as amusing without the adulterous spice.

At the Ambigu-Comique they have got an *advertising curtain:* a tastefully ornamented thing, with the addresses of a certain number of tradesmen inscribed on it in most legible characters. One would have thought such mercantile go-a-headism as this must needs have been born in Yankeeland, or, at all events, in England; but no—the Parisians claim it as their own. Whether it will be generally successful, remains to be seen: certain it is that the effect when first witnessed is very singular. Fancy the spectator of *Hamlet* or *Macbeth* passing the *entr'acte* in reading on the curtain that Smith's candles are sixpence a pound, and that Morrison's pills may be had over the way!

It is not quite certain at this moment whether we shall have an Italian Opera or not, this winter. Ronconi, who has the privilege, finds it difficult to meet with a capitalist willing to make the necessary advances; and he himself has, unfortunately, not the means, he having generously sacrificed all his fortune to make up the heavy losses sustained last year. If before Saturday he cannot make the necessary deposit, and prove that he has money sufficient in hand to open the theatre, his privilege will be sacrificed. Everybody wishes well to him, and would be sorry to see him lose the chance of making up his losses. If he should succeed in opening the theatre, he has promises of support from Mme. Sontag, Mlle. Alboni, Lablache, and Reeves.

It is still considered certain that on the 15th of next month, Rachel will put an end to her engagement at the *Théâtre Français*. She intends visiting the United States with a *troupe*.

NOTES FROM ABROAD.

Australia—Disastrous Termination of Kennedy's Expedition.

THE following distressing particulars are given in the *Adelaide Observer*, of April 7, as communicated by the returned survivors, who tell that the brave and devoted leader, and nine out of his twelve followers, have perished.

Out of a party of thirteen only three have survived, the head of the party having been most barbarously murdered by the aborigines. Mr. Kennedy was an experienced explorer, having been with Sir Thomas Mitchell in his last expedition to the interior, and having again pursued the same expedition by himself to a considerable distance beyond the spot where the Surveyor-General had finished, and discovered that

in relation to the Victoria River, which was supposed to flow into the Gulf of Carpentaria, a mistake had been made, and that the Victoria lost itself in a marshy flat. Upon his return from this expedition, he was sent to Cape York, at the head of a party consisting of twelve men, viz., Mr. J. C. Blackett, Mr. E. Bigge, Mr. A. Johnson, Mr. T. Wall, Mr. W. Carron, Mr. C. Niblett, James Luff, Edward Taylor, William Costigan, William Goddart, Dunn, and Jackey, an aboriginal native, with instructions to proceed to Port Albany at Cape York, where he was to be met by the *Ariel*, despatched from Sydney with supplies, and afterwards he was to proceed down the westward side of the Peninsula, and return to Sydney. Having been landed at Rockingham Bay, the party found great difficulty in getting along the coast, from the thickness of the scrub, and diverged into the interior, and took a south-west course for six weeks before he could make way northward. They found the country impassible, and ultimately had to leave their carts and stores at Weymouth Bay, Mr. Kennedy starting with four men, Luff, Costigan, Dunn, and Jackey, proceeded to Port Albany, intending to send the schooner round to relieve the men left in the camp. The narrative of the aboriginal Jackey gives a graphic account of this melancholy journey. The death of Mr. Kennedy he relates as follows:—Mr. Kennedy told me we should get round to Port Albany in a day; we travelled on all day till 12 o'clock (noon), and then we saw Port Albany; then he said there is Port Albany, Jackey—a ship is there—you see that Island there, pointing to Albany Island; this was when we were at the mouth of Escape River; we stopped there a little while; all the meat was gone; I tried to get some fish, but could not; we went on in the afternoon half a mile along the river side, and met a good lot of blacks, and we camped; the blacks all cried out, Powad, powad, and rubbed their bellies, and we thought they were very friendly, and Mr. Kennedy gave them fish-hooks all round; every one asked me if I had anything to give away, and I said No; and Mr. Kennedy said, "Give them your knife, Jackey;" this fellow on board was the man I gave the knife to; I am sure of it; I know him well; the black that was shot in the canoe was the most active in urging all the others on to spear Mr. Kennedy; I gave the man on board my knife; we went on this day, and I looked behind, and they were getting up their spears, and ran all round the camp which we left. I told Mr. Kennedy that very likely these black fellows would follow us, and he said, "No, Jackey, those blacks are very friendly;" I said to him, "I know those black fellows well, they too much speak." We went on some two or three miles, and camped; I and Mr. Kennedy watched them all that night, taking it in turns every hour all night—bye and bye, I saw the black fellows: it was a moonlight night; and I walked up to Mr. Kennedy and said to him, "There is plenty of black fellows now." This was in the middle of the night; Mr. Kennedy told me to get my gun ready. The blacks did not know where we slept, as we made no fire; we both sat up all night. After this daylight came, and I fetched the horses and saddled them; then went on a good way up the river, and then we sat down a little while, and we saw three black fellows coming along our track, and they saw us, and one fellow ran back as hard as he could run, and fetched up plenty more like a flock of sheep almost. I told Mr. Kennedy to put the saddles on the two horses and go on; and the blacks came up, and they followed us all the day. All along it was raining, and I now told him to leave the horses and come without them, that horses make too much track. Mr. Kennedy was too weak, and could not leave the horses. We went on this day till towards evening, raining hard, and the blacks followed us all the day, some behind, some planted before; in fact, blacks all around following us. Now we went into a little bit of a scrub, and I told Mr. Kennedy to look out for the blacks. Then a good many black fellows came behind in the scrub, and threw plenty of spears, and hit Mr. Kennedy in the back first. Mr. Kennedy said to me, "Oh! Jackey, Jackey! shoot 'em, shoot 'em." Then I pulled out my gun and fired, and hit one fellow all over the face with buck shot; he tumbled down, and got up again and again, and wheeled right round, and two black fellows picked him up, and carried him away. They went away then a little way, and came back again, throwing spears all around, more than they did before, very large spears. I pulled out the spear at once from Mr. Kennedy's back, and cut out the jag with Mr. Kennedy's knife; then Mr. Kennedy got his gun and snapped, but the gun would not go off. The blacks sneaked all along by the trees, and speared Mr. Kennedy again in the leg, above the knee a little, and I got speared over the eye, and the blacks were now throwing their spears all ways, never giving over, and shortly again speared Mr. Kennedy in the right side. There were large jags to the spears, and I cut them out and put them into my pocket. At the same time we got speared, the horses got speared too, and jumped and bucked all about, and got into the swamp. I now told Mr. Kennedy to sit down, while I looked after the saddle bags, which I did; and when I came back again, I saw blacks along with Mr. Kennedy. I then asked him if he saw the blacks with him. He was stupid with the spear wounds, and said, "No." Then I asked him where was his watch? I saw the blacks taking away watch and hat as I was returning to Mr. Kennedy. Then I carried Mr. Kennedy into the scrub; he said, "Don't carry me a good way." Then Mr. Kennedy looked this way, very bad (Jackey rolling his eyes). I said to him, "Don't look far away," as I thought he would be frightened. I asked him often, "Are you well now?" and he said, "I don't care for the spear wound in my leg, Jackey, but for the other two spear wounds in my side and back," and said, "I am bad inside, Jackey." I told him black fellows always die when he got spear in there (the back;) he said, "I am out of wind, Jackey." I asked him, "Mr. Kennedy, are you going to leave me?" and he said, "Yes, my boy, I am going to leave you." He said, "I am very bad, Jackey; you take the books, Jackey, to the captain, but not the big ones; the Governor will give anything for them." I then tied up the papers. He then said, "Jackey, give me paper and I will write." I gave him paper and pencil, and he tried to write, and he then fell back and died, and I caught him as he fell back, and held him; and I then turned round myself and cried. Was crying a good while until I got well; that was about an hour, and then I buried him; digged up the ground with a tomahawk, and covered him over with logs, then grass, and my shirt and trowsers. That night I left him near dark; I would go through the scrub, and the blacks threw spears at me, a good many, and I went back again into the scrub. Then I went down the creek, which runs into Escape River, and I walked along the water in the creek very easy, with my head only above water, to avoid the blacks and get out of their way; in this way I went half a mile. Then I got out of the creek, and got clear of them, and walked on all night nearly, and slept in the bush without a fire; and went on next morning.

Jackey was thirteen days getting to the ship from leaving Mr. Kennedy. Jackey took three barbed spears out of Mr. Kennedy; one went through his body and came out of the side of the abdomen. Mr. Kennedy told Jackey from Shelbourne Bay that he would give him five shillings per week to look out opossums for him, and Jackey did so all the way to Escape River. Mr. Kennedy told Jackey which way to go to reach Fort Albany when he was dying.

Science in America.—The second annual session of the "American Association for the Advancement of Science," met, as we recently announced it was about to do, at Cambridge, Mass., with a liberal attendance. There were present, the presiding officer, Professor Joseph Henry, of the Smithsonian Institute; Professor Hare, of Philadelphia; W. C. Redfield; Professor A. D. Bache, Superintendent of the Coast Survey; B. Silliman, Jun.; the Professors of Harvard, including Agassiz, Dr. Gray, Pierce, and others. Many of the papers presented are of decided interest. Those of Professor Agassiz, on Natural History, are quite numerous. His remarks on the "Zoological Character of Young Mammalia," were attended with curious illustrations of the apparent identity in the early stages of growth of different animals. The stages of birth and maturity had been carefully studied; the intermediate ones of growth had been neglected. A paper of great practical interest was read by Lieut. C. H. Davis, U.S.N., on "An American Prime Meridian," to be established on this continent, and substituted for that of Greenwich, now in use. Greater scientific accuracy would be the result of this change. To secure, however, an easy interchange with the present calculations, he proposes an arbitrary meridian at the city of New Orleans, to be exactly six hours in time and ninety degrees in space from the meridian of Greenwich. We notice in the lists of papers presented, observations by Professor Bache on objects connected with the Coast Survey; "On the supposed association of Electricity with Cholera," by Professor Robert Hare; various astronomical observations by Professor Pierce, &c.—*New York Literary World.*

SKETCHES OF SOCIETY.

BRITISH ASSOCIATION EXCURSIONS.

"*The Silurian King.*"

Ten years have passed away since we visited the Dudley Hills, and when Sir Roderick Murchison addressed his followers from a boat in the subterranean canal, amid the splendid caverns of the castle hill. On Saturday last we were once more pilgrims in the same vocation, and we are bound to say, that however Professor Schönbein (of gun-cotton and ozone memory), who was present on the former occasion, has faithfully described what then passed, in his graphic German sketch, we had this year much more gratification, and what was to us not unimportant, the weather was fine, and we had not to run to the caverns for shelter from the pelting rain.* Lord Ward had also done everything in his power to render the scene attractive; for not only could the votaries enter by barges into the vaulted chambers, but a new foot road was cut along the slippery side of the gallery, and fenced with palings, along which the numerous and gaily-dressed female philosophers might trip along, and look down on the deeper abyss beneath, in which many choice spirits of the land were being ferried along.

As we were making our subterranean entry by this devious path-way, there entered a personage having authority, with hammer in hand, Tyrolese hat and feather on his head, and a plaid over his shoulder. It was our trusty friend Sir Roderick Murchison, wearing the dress in which he had recently explored the Alps; and we soon found in these recesses of the earth the value of such a distinguishing garb, for every one flew to the greenpeaked hat whenever a glare of light was reflected on it. Sticking to our Silurian as he advanced, we at length came to an end of the path, where we were brought up by a barrier, against which a thousand or more souls were collected in anxious expectation. There we were reminded of Michael Angelo's great frescoes in the Vatican; and whilst the glimmering lights in the distance indicated a further and a further deep, a wag near us said that our leader looked like *Robert le Diable*, and another likened him to *Garibaldi*. There he stood, on a little heap of stones and clay, until another thousand or two being added to his congregation, he took the speaking trumpet of Mr. Smith (Lord Ward's agent) in hand, and addressed the flock who were following him. He expounded to them the nature of the limestones in the heart of which they were assembled, and showed the value of this study, which had led him to propose that classification of those lower rocks which he had termed Silurian, and pointed out how important a good acquaintance with them had proved, in preventing people from searching after coal, whenever rocks of this age, and containing such fossils, appeared. He rejoiced (he said) in having extended this classification, since he had met them in the Dudley Caverns, to the vast regions of Russia and Scandinavia; and was highly

* See the glorious lyric in the *L. G.* upon the *fête.*

gratified to find that in their large continent the Americans had found that that grand Alleghany chain had a back-bone composed of Silurian rocks. The composition of the coal-field of Staffordshire, the manner in which the Silurian rocks underlie it, and how they have been raised to the surface in hills and downs near Dudley; the grand "plutonic" or, as those who are not geologists would call it, the volcanic agency of former periods, by which the adjacent basaltic hill of Bewley was erupted, with other topics, were artistically and popularly touched upon; and then after due eulogy of all the subterranean energy of the miners, he called on the multitude to give three hearty cheers for Lord Ward and his agents, who had so admirably lighted up the galleries.

Sir Roderick then called on the French Ambassador, who accompanied him, to say a few words, and we were cordially gratified with the hearty and cheerful manner in which M. Drouyn de Lhuys expressed in very good racy English his admiration of these underground enterprising labours of our countrymen. We could not but feel that whilst his Excellency had delivered a very sensible and apposite address to the assembled men of science at Birmingham, he here had the advantage of talking out to a true John Bull assembly, of all creeds and persuasions, and who, by reiterated cheers, gave undeniable token of their right feelings.

As we departed from the caverns, blue and red lights illumed our path and lighted up the furthest recess, the crowd beneath and on the barges cheering, as the Tyrolien hat, or the notables around him, (among whom were several very pretty ladies,) passed by the grand massive pillars of limestone.*

The principal feature of the afternoon was a *sub die* address from Sir Roderick, on the summit of the beautiful hill called the Wren's Nest, the highest point of the tract, where he painted to the eye the general geological features; and looking to the west as the region of old Caradoc or Caractacus, the famous British King of the Silures, he explained how these Dudley Hills were miniature repetitions of the grander phenomena in the heart of the domains of Caractacus, on the other side of the Severn, where our countrymen, in so long opposing the Romans, had shown

> "What the Silures' vigour unwithstood
> Could do in rigid fight."

This last point of the chief was caught up by the Bishop of Oxford, who in calling on the surrounding groups to give three hearty cheers, proclaimed Sir Roderick, in his eloquent manner, "Silurian King." Professor Rogers concluded the field operations by a lively and animated discourse, in which he described the analogy between the Alleghany mountains and the Silurian and other older rocks of Britain.

Never did we attend a merrier or more cheerful party, and whilst we peeped in afterwards at some of the museums, and were well refreshed by good things, we came away convinced that there was indeed some use in going about to pick up "chuckie stanes, to see how the world was made."

In mentioning that his state of health had almost prevented his coming to Dudley, and that he had done so in opposition to his medical adviser, the hearts of the people opened to the newly-crowned Silurian monarch when he said to them, "But what more fitting burial place can I have than in the Wren's Nest, and amidst these rocks, which have so long been familiar to me?"†

A select party of the "Nobs," and a few lovers of the picturesque, visited Warwick Castle, Guy's Cliff, and Kenilworth,—going to Leamington by railway, and thence by omnibuses and flies. To those who did not reach Guy's Cliff, the museum, the churches, and Beauchamp Chapel at Warwick, were points of attraction. Some few went to Stoneleigh Abbey also. The return from Leamington to Kenilworth was advised in the programme for the 2 15 train, to a cold collation at Kenilworth. About fifty assembled to a most admirable dinner, and very moderate charges, at the King's Arms. The afternoon was spent at the Castle, and the party reached Birmingham soon after seven o'clock. The arrangements throughout were exceedingly good, and the weather very favourable.

* As we made our exit with the first division, we heard and knew nothing of a "*divertissement*," which created a little alarm to some of the fair sex who remained. It had always been the custom to fire salutes in the caverns, but Mr. Smith, seeing how the wind blew, and viewing the great number of people, had prudently resolved not to allow any discharge until the great mass of persons had quitted the recesses. Accident, however, detained too many, and the noise and sulphurous fumes alarming them, a sort of *sauve qui peut* took place, but not the slightest accident resulted.

† Why Mr. Strickland was not present to throw further light on the proceedings, seems to have been a grand omission, seeing that Dudley Castle was founded by the Saxon chief Dodo, about the year 700 (whence the name of Dods-ley, or Dudley), and that no doubt many Bones of the *Dodos* are to be found hereabouts.—Ed. *L. G.*

BIOGRAPHY.

DR. W. COOKE TAYLOR.

The death of this kind-hearted Irishman threw a gloom over an attached circle of friends who anticipated meeting him last week at Birmingham. On the very day, Wednesday the 13th, when his arrival from Dublin was looked for, he died at his residence, Herbert Street, in that city, after little more than eight-and-forty hours' illness with cholera, and only in the forty-eighth year of his age; leaving a widow and several children to deplore his sudden and irreparable loss. Dr. Taylor was educated in the University of Dublin, and a man of considerable scholastic attainments, sound judgment, great industry, and ready ability to handle any task of a literary character which he was called upon to undertake. With such aptitude and abilities he contributed largely and variously to the literature of his time; and his works were (generally speaking) successful and popular. Himself of a liberal and independent mind, it must sometimes have been a sore trial to him to write up, in the way of employment, causes and questions with which he had little sympathy, and perhaps in his judgment disapproved; but this unwilling drudgery is a fate to those who must live by their pens, as the requirements of publishers or parties dictate the labour. Dr. Taylor began his course with the *History of the Civil Wars in Ireland*, an interesting and impartial production; and his last, on the *House of Orleans*, near the close of which he makes the remarkable observation, that persons connected with that family had all, or nearly all, come to untimely ends—he himself has just finished its history, and dies of cholera!! In private and social life, Dr. Taylor was warmly cherished for his obliging disposition and excellent qualities. He had the openness and generosity characteristic of his country, was just in his sentiments, and from much reading and experience had acquired a mass of miscellaneous intelligence which he could apply with soundness, discretion, and effect, to every class of his literary performances. His acquaintance with learned languages and statistics was of a comprehensive order, and the latter rendered him for many years a valuable Secretary to the Statistical Section of the British Association. Dr. Taylor's industry and talent, especially during the last half-dozen of years, were chiefly displayed in the following publications:—Monuments of Ancient and Modern History, 2 vols.; Romantic Biography of the Age of Elizabeth, 2 vols. 8vo., 1842; History of the Revolutions, Insurrections, and Conspiracies of Europe, 2 vols. 8vo., 1843; Translation of Beaumont's Ireland, 2 vols.; History of the House of Orleans, 3 vols. 8vo., 1849. He was also a constant contributor of papers to *Bentley's Miscellany*, including the Moral Economy of Large Towns; and his tracts in favour of the Corn-Law-League, in connexion with Mr. Cobden, and recent political writings in support of the Irish Government, (for he was always an enemy to Repeal) would make other volumes of no mean bulk.

Mr. Thomas Inskip, of Shefford, Beds, died on the 2nd of this month, at Brighton, of cholera. Mr. Inskip, well known to the archæological world, was, we think, first introduced to public notice in the pages of Mr. Brayley's *Graphic and Historical Illustrator*, (published in 1834,) in connexion with two interesting papers on Roman remains found near Shefford. But these and other labours in the cause of antiquity did not gain for the intelligent amateur the least token of recognition in any way from the Society of Antiquaries of London, the only body then existing from which sympathy could be expected by a diligent fellow-labourer living in a remote and obscure district. When the British Archæological Association was formed Mr. Inskip, however, was not overlooked. He was elected one of the very first members, and was subsequently appointed a local member of the Council, which office he held up to the period of his decease. The pages of the *Journal* of the Association testify the zeal and activity of Mr. Inskip. He possessed a valuable collection of local antiquities, which he ceded to the Society of Antiquaries of Cambridge; and we believe he originated the Bedford Archæological Society; if not, he was among the most useful of the members.

THE DRAMA.

Marylebone. — This elegant little place of amusement re-opened on Monday, under the direction of its spirited manager, Mr. Watts, with a company comprising most of the old favourites, including Mrs. Mowatt and Mr. Davenport. After "God save the Queen" had been sung, a new tragedy, called *Valesco; or, Castilian Honour*, was produced, the principal parts being extremely well played by Mr. Davenport and Miss Fanny Vining. The story, which has some features of those of the Cid, and of *Romeo and Juliet*, presents some striking situations, but, in a leading feature, is so repulsive, that we cannot predict any permanent success for the work. That a daughter should consent to marry a man who has slain her father in a duel, when she has, moreover, solemnly sworn to him to avenge his death, is outrageous in feeling as well as in probability. The tragedy, which is, we believe, the production of an American writer, is deficient in the individuality of its character, and is written in a style that is alternately flat and unrythmical and bombastic, yet the interest of some of the scenes was so great, that it was received with considerable applause. After the tragedy, Miss Beaufort, from the Dublin Theatre, made her first appearance before a London audience, in the *petite* comedy of *Perfection*. She is tall, strikingly handsome, with great vivacity and intelligence of manner, has an agreeable voice, sings well, and, in short, bids fair to succeed most completely as a *vaudeville* actress of the highest class. A performance so thoroughly lady-like and free from all affectation as her *Kate O'Brien* we have not seen for some time on the English stage. The house was well attended, and the pieces put on the stage with great care and attention to effect and propriety, as is usual at this theatre.

ORIGINAL,

AND CURIOSITIES OF LITERATURE.

SUNDRY POPULAR RHYMES.

A Cockney's three Desires.

If I had a *Garden*, a *Field*, and a *Gate*,
I wouldn't care for the Duke of Bedford's estate;
That is, I wouldn't care for his grace's estate,
If I had Covent *Garden*, Smith-*field*, and Billings-*gate*.

Book Rhyme.

"David Robertson is my name,
And for to wrytt I think no shame;
Excuse my writt because not faire,
I have been shortely att the Laire."* A.D. 1633.

Rhyme on the Surname of Smith.

"From whence came *Smith*, all be he knight or squire,
But from the smith that forgeth in the fyre."

Such as desire to know the names, success, and number of all the six wives of King Henry VIII., may conceive Bluff Harry thus speaking on his death bed in the following rhymes:—

"Three *Kates*, two *Nans*, and one dear *Jane* I wedded:
One Spanish, one Dutch, and four English wives:
From two I was divorced, two I beheaded,
One died in childbed, and one me survives."

P. B. 1849. M. A. D.

* Learning, *i.e.* at School.

VARIETIES.

Waterspouts. — On Tuesday the 4th, a few minutes after one o'clock P.M., a remarkable waterspout was seen off the mouth of the harbour of Llanelly, of which the *Cambrian* newspaper says:—"It descended rather low, but was not observed to touch the surface of the sea. It was situate at the very verge of a particularly dense blue-black cloud, and as the spout drew up again into it, we could very distinctly observe the cloud spread out wider and wider the faster it drew up. It was very dark on the margin, but all down the centre there appeared an aqueous light streak, which gave it more the appearance of a tube. It did not separate at all whilst ascending. This one had scarcely been withdrawn more than eight minutes, when another descended rapidly, much more to the west, it being then about the middle of the Worms-head Bay. This was very similar to the one which had just disappeared, only that it seemed to descend quicker, and to contain a greater quantity of water, and appeared to the eye about three feet in diameter, and it came down much lower than the previous one, but still it did not quite touch the water. It moved forward at the rate of about ten miles an hour, the wind blowing from the north-west at the time. When going up again it had not ascended very high, when the lower part of it swung round very suddenly into an oblique direction, forming an angle of about 20°; but it soon resumed its former perpendicular position. From the time of the latter descending and ascending again, eleven minutes elapsed by our watches. Neither of these waterspouts was accompanied by either thunder or lightning, as is very frequently the case with these phenomena. We understand that it is about ten or twelve years ago since one made its appearance, and it then swept over the land; and, in Llangennech, the force of the circular motion of the wind was so great, that it drew up leaves, small twigs, and loose branches, and birds which happened to come within its influence, but did very little damage to the place.

Discovery of Pennies of Edward I.—In the early part of last week, some workmen dug up on the premises of Mr. Perress, at Newport, in the Isle of Wight, a mass of metal, which turned out to be a conglomerate of nearly or quite 5000 of the silver pennies of Edward I. The Archæological Association is so well represented at Newport, that in the course of a day or two, five of its members were, with the liberal concurrence of Mr. Perress, engaged in classifying the interesting *trouvaille*. The task, we believe, was subsequently consigned to Mr. J. H. Stearn and Mr. J. A. Barton, whose well-known experience and ability are a guarantee for its being properly performed. As far as the coins have yet been examined, the mints are of London, Canterbury, Durham, York, Berwick, Newcastle, St. Edmunds, Lincoln, Bristol, Dublin, and Waterford. There is *one* halfpenny of the London mint; one penny is of Louis of France; and there are also several of Alexander of Scotland, and some counterfeit sterlings.

Fine Arts.—We are much pleased with a design propounded by Mr. J. F. Gilbert, to open the gallery of the Pantheon in Oxford-street, early in November, as a permanent exhibition of productions in the fine arts for sale. The works must have been previously exhibited at one of the metropolitan exhibitions, or painted by an exhibiting member of the profession, which will be a test of their possessing a certain degree of merit; and a payment of 10s. per annum cannot be a very heavy tax on artists desirous of availing themselves of this means to come before the public. Other judicious regulations are laid down in the Prospectus, and it is stated that the proprietors of the Pantheon have allowed the use of these fine rooms gratuitously.

New Churches.—The twenty-ninth annual report states that 420 new churches, capable of containing 464,008 persons, including 267,767 free seats, have been completed. Twenty-one new churches are now in course of erection, and plans for twenty-two more have been approved.

Testimonial to the Rev. A. F. Pettigrew.—The *Hastings and St. Leonard's News* gives an interesting account of the presentation of a handsome tea-service of plate, subscribed for by the inhabitants, as a memorial of their esteem and affection to this young clergyman, their late curate, who has succeeded Dr. Harness as minister of Brompton Chapel. His exemplary discharge of pastoral duties, and his Samaritan devotedness to the poor, were warmly eulogized by Mr. Branden, who occupied the chair on this occasion; and we rejoice to record instances of this kind, when we meet with so many sad examples in the contrary spirit, where an assertion of mere forms and observances light up feuds and strife between clergymen and their congregations, where no feeling ought to exist but that of Christian harmony.

The Late Sir John Barrow.—Our last *Gazette* contained the commencement of the subscription list for a monument to the memory of the late Sir John Barrow, whose long services in the very difficult position of Secretary to the Admiralty, were performed in such a manner as (marvellous to state!) made him multitudes of friends and hardly a foe. When we remember this, independently of his literary reputation and never-flagging exertions in the cause of science, and for the promotion of scientific men, we cannot but anticipate a tribute worthy of its subject. He, at least, was not the official branded by Dr. Robinson (see last *Literary Gazette*) for stupidly and pertly asking "What's the use of science?"

Antiquities for the British Museum.—A vessel from Bombay has brought twenty tons' weight more of antiquities from Nineveh, for deposit in that national establishment. The authorities of the Treasury have given the necessary directions for the unshipment and free delivery of the antiquities to the Museum. The packages containing these valuable relics to be forwarded direct, without being previously disturbed, and opened and examined by the proper authorities, in order that every care may be taken that no damage should be sustained by them. We trust, therefore, that they will be in better condition than the previous cargo.

Rotary Engine.—Mr. E. Galloway, C.E., has published a letter, in which he claims the merit of having invented and patented the Rotary Engine, mentioned in our last, in which patent Captain Fitzmaurice is only a shareholder.

Magdalene College, Oxford.—The foundation for the new grammar school of this college (so long postponed) was ceremoniously laid by the President, Dr. Routh, on his ninety-fourth birth-day, Wednesday, Sept. 19th. A suitable Latin inscription, written by the learned and venerable father of the university, and engraved on copper, was deposited under the stone.

Italian Refugee Fund.— This political subscription has raised somewhere about 200*l.*, which sum (*non obstat* our last *Gazette*) may not be ill bestowed upon the unsuccessful and distressed foreigners. A subscription of 2*l.* 2*s.* is announced from the *Société de Proscrits Democrats Socialistes Français à Londres.*

Intramural Burials.—This abomination is receiving check after check, and must be discontinued. The disgusting occurrence of an exposure of human remains at the funeral of Mr. Deputy Selson, has given it a severe blow in the city.

Remains of Roman Art.—One of the most beautiful specimens of tesselated pavement ever found in the country, has just been discovered in the principal street of the old town of Cirencester, the site of ancient Corinium. A piece was found some few weeks ago, which was taken up with a view to its preservation by laying it down again as the floor of a museum, and on pursuing the investigation, at the suggestion of one of the Archæological Societies, the present beautiful specimen was exposed. The room measures twenty-five feet square, and contains *nine circles*, of nearly five feet diameter each! Four only are at present wholly open to view. They contain bold and well-executed heads of Ceres and Flora, and exceedingly spirited representations of Actæon and his dogs, and of Silenus riding on his ass.

New Houses.—Since January 1st, 64,058 new houses have been built in London.

Manna.—Among the rarities at Birmingham not brought before the Association, we were shown by Mr. Munby, the author of the admired French work on the *Botany of Algiers*, (which ought, by the bye, to be better known in England) a sample of a vegetable product of the arid deserts, of a remarkable description. In its dried state it resembles granules of the bark taken from the cork tree, of various sizes, from grains of millet to horse beans, and on being masticated, falls into a roughish, tasteless meal. It is found at day-breaking covering the sands for miles, as if rained plenteously from heaven; and being gathered, is readily converted into bread. The French soldiery used quantities of it daily in this manner. As the sun increases in power, it is consumed and dies away without leaving almost a trace of having been. This substance, so closely resembling the Manna of the Israelites, is a species of Lichen, which thus grows up in the Night, and disappears with the advance of Day.

German Literature.—We observe with pleasure that Mr. Egestorff, the able German scholar and translator of Klopstock's "Messiah," has been induced, by the Literary and Philosophical Society of Chichester, to deliver a course of lectures, with readings and original remarks, on this noblest of German poems, at the museum there. Such engagements speak well for the tastes and cultivation of the inhabitants.

Hailstorm.—On the 5th inst. a hailstorm fell upon the vineyard district of Cavignac, Cezar, St. Marins, Cortnezais, and Marsas, and almost utterly destroyed the produce of the year.

Cottages for Labourers.—The Dukes of Bedford and Northumberland are stated to be devoting large sums to the improvement of cottages for the humbler classes on their vast domains. We trust it will soon be a general and not an exceptional practice. A lowly shed and bit of ground would spread happiness over hundreds of thousands of honest labourers and their families; and they ought to have them to be made a loyal and a moral people.

Mr. Tomsett Judge.—A letter from Mr. Judge, dated "Windsor," shows us that through her Majesty's clement and generous bounty he has been (we are glad to say) released from gaol.

A strange Dictum. — A scientific humourist, describing one of the busy-bodies at the Birmingham Meeting, said, "He knows something about Nothing; and nothing about Something."

A Mare's Nest!—People often talk of finding this phenomenon, but till we read the *Liverpool Chronicle* of last week, we were never aware of the reality. That journal states, that on the 21st the Mayor of Manchester will give a grand banquet to the Lord Mayor of London, and the party will include the Mayors of Bolton, Stockport, Oldham, Ashton, and other towns in the vicinity of Manchester:—if this is not a Mare's Nest there never will be one discovered in the world!

Irish Love Letter.—"Thou art the *shadow* that *lights* my path."—*Times of Wednesday.*

Scripture Fulfilled to the Letter.—Truly does the Registrar-General in his last report express the condition of London burials, when he says, that the bodies of the dead are "*sown in corruption.*"

New Scientific Nomenclature.—The *Statistic* section, and the *Ethnological* sub-section, (vice the Medical section defunct,) held their sittings in Queen's College, Birmingham, where a member, inquiring of the policeman at the entrance if this were the way to the section, was answered, "Yes, sir, *the No-Logicals* (right to a letter!) meet in the hall on the left; and up stairs, a little farther on, the *Sophisticks.*"

Tenacity of Life.—An advertiser in the *Times* of Thursday, tells Emilie that her "desertion has *broken his heart*," but gives his address "for *a week longer*" to the lodging where he means to be! Emilie, we see, responded amiably on Friday, so that it is to be hoped the wound is healed by this time.

LITERARY NOVELTIES.

LIST OF NEW BOOKS.

Arnold's Hand Book of Geography and History, translated from the German, second series, 12mo, cloth, 4s. 6d.
Barratt's (J.) Allshea; or, The Maid of the Desert, 18mo, cloth, 2s.
Bell's Reptiles, second edition, 8vo, cloth, 12s.
Burn's (Dr.) Christian Philosophy, 2nd ed., post 8vo, cloth, 5s.
Draper's Bible Stories, vol. 1 and 2, each 1s.
Frank Forester's Fish and Fishing in United States, by H. W. Herbert, 8vo, cloth, 16s.
Harvey's Sea Side Book, second edition, 12mo, cloth, 5s.
Hook's (T.) Life and Remains, 2 vols., post 8vo, cloth, 21s.
Houlston's Industrial Library: The Cook, 12mo, cl. 3s. 6d.
——— The Governess, 12mo, cloth, 3s 6d.
Houston's (Thomas., D.D.) Youthful Devotedness, 12mo, cloth, 2s. 6d.
Ibbetson's (Captain L. L. B.) Notes on the Geology, &c., of Isle of Wight, 8vo, cloth, 7s. 6d.
Mamma's Own Story Book, square cloth, 3s. 6d.
Martindale's (J.) Analysis of Soils and Minerals, 12mo, cloth, 3s. 6d.
Nelson's (Lord) Life, by Pettigrew, second edition, 2 vols. 8vo, cloth, £1 16s.
O'Connell's (J., Esq., M.P.) Recollections and Experiences during a Parliamentary Career, from 1833 to 1848, 2 vols. post 8vo, cloth, 21s.
Pattison's (S. R.) Chapters on Fossils, 12mo, cloth, 4s. 6d.
Simmon's (G.) Working Classes, 12mo, cloth, 5s.
Sturgeon's Bankruptcy Act, 12mo, boards, 9s.
Watson's (J.) The Angel's Theme, 12mo, cloth, 2s. 6d.

DENT'S TABLE FOR THE EQUATION OF TIME.

[This table shows the time which a clock or watch should indicate when the sun is on the meridian.]

1849.	h. m. s.	1849.	h. m. s.
Sept. 22 . . .	11 52 40·4	Sept. 26	11 51 18·2
23 . . .	— 52 19·6	27	— 50 58·0
24 . . .	— 51 59·0	28	— 50 38·0
25 . . .	— 51 38·5		

TO CORRESPONDENTS.

☞ Some reviews, and Horæ Celticæ, No X., are deferred, to make room for the Scientific Report of the British Association, which, on coming to the other daily sections, will be less voluminous, as we can promise having almost every valuable contribution in MS. in our hands. We also reluctantly postpone the Memoir of the last of the name of Cromwell.

*** *Babylonian, Khorsabad, and Behistun Inscriptions.*—We are not inclined to prolong any controversial writings upon this subject, as they do not assist in furthering interpretation, which is (after all) the grand object of every labourer in the cause. We have, ourselves, received such information from Mr. Norris, the learned and indefatigable Secretary of the Asiatic Society, that we should be the last to allow his great lights and merits in this pursuit to be hid under a bushel, (as if any bushel, or much larger measure, could cover them!) Nor has the *Literary Gazette* failed to make universally known the excellence of Champollion's system of hieroglyphics, as applicable for reading the complicated cuneiform writings; nor the work of the Chevalier Löwenstein, published in Paris, in 1847, (reviewed by us alone); nor the ideographical element to the reading of the name of SARGON, by M. de Longperrier, (*Revue Archeologique*, p. 502); nor, lastly, the far-famed discovery of the fragment, in Porter, p. 78, vol. 2nd, by Grotefend, published in the *Mines de l'Orient*, vol. 6, alluded to by Mr. Layard. Many fragments of Babylonian cursive Inscriptions, which that illustrious *savant* discovered to contain nearly identical rescripts of the great Babylonian inscription, presented by Harford Jones to the Hon. East India Company, also take their place and share in the decyphering now we trust in train, to add the intelligence of the earliest tongues to the information of the present age.

Easton, Sept. 18th, 1849.—Sir,—In reply to your query in the review of the proceedings of the Royal Society, it is worthy of remark, that so few flies and insects have not appeared in this locality for many years past, although no case of Asiatic cholera has occurred.—Yours, truly,

JAMES CLARKE.

Archæology.—To the remonstrance against our classing the pursuit of Archæology under the head of "Literary and Learned," in our Journal, and not as a Science, we make answer, that it is not from disparaging Archæology as entitled to the rank of a Science, and a high Science too; but that when we look at its intimate connexion with every class of literature, and the light it throws on biography, geography, history, the progress of other sciences, and the arts, and the changes in the condition of every people from the earliest times, we deem the relation so interwoven and essential, that to place it in this category is rather to exalt than lower its importance. If Geology produces the Medals of Creation, Archæology may boast of producing the Medals of the Human Race!

ADVERTISEMENTS.

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